

# 1AP20R03U 161.7TQ 18 APR 2006

# **SEQUENCE LISTINGS**

## SEQUENCE ID NO 1

GCTGCAGTCCCGCTCCAGGCCAGAGTCCCAGGAGAGCGTCCTCCGCGCTCACAGGCGCCTTTGTC TTCCCGCTTCCCTTTTTTCAAAAGCCAAGAGGTAATTATTTGGTCTTTGTGCAAGGCAAA CCTCTCCAGATGCCACTTCCAAATATAGGCTCTCATTAACACCAGAGGCTGGCCTGGTGTGGTGC AAGCCAGGCGGCAGAGACCCCGGCTCCTGCGCCCCTCCTAGCTCCCAGAGAGCGTGGAT CGCGGGCGGGCTCACCGAGCGAGGTTACCTCTCTTGAAAATACTTAAACACTTTTTTTCCTCTC CACTGAAATCTCAAAAAACAGCCCATTTTGAACCAGAATAATTTAGTCTGACAACAGATTCTTCC TCTGTTCACAGCTGTCCCAGAGGAGNGAGCTGAAATCTGAACCTCTCAGCTGTGATTGGATCTTT CTTGCAAAAGAGAGAAAAAAAAACCCTCCCAGCCAAAACGGGCTCAGTTCGTAAAGGAGCCGGG TGACTTCAGAGGCGCCGGCCCGTCCGTCTGCCGCACCTGAGCACGGCCCCTGCCCGAGCCTGGCC CGCCGCGATGCTGTAGGGACCGCCGTGTCCTCCCGCCGGACCGTTATCCGCGCCGGGCGCCCCCCC AGACCCGCTGGCAAGATGCCGCGCTCCTTCCTGGTCAAGAAGCATTTCAACGCCTCCAAAAAGCC AAACTACAGCGAACTGGACACATACAGTGATTATTTCCCCGTATCTCTATGAGAGTTACTCCA TGCCTGTCATACCACAACCAGAGATCCTCAGCTCAGGAGCATACAGCCCCATCACTGTGTGGACT TTTGGGGCGAGTGAGTCCCCCTCCTCCATCTGACACCTCCTCCAAGGACCACAGTGGCTCAGAAA GCCCCATTAGTGATGAAGAGGAAAGACTACAGTCCAAGCTTTCAGACCCCCATGCCATTGAAGCT GAAAAGTTTCAGTGCAATTTATGCAATAAGACCTATTCAACTTTTTCTGGGCTGGCCAAACATAA GCAGCTGCACTGCGATGCCCAGTCTAGAAAATCTTTCAGCTGTAAATACTGTGACAAGGAATATG TGAGCCTGGGCCCCTGAAGATGCATATTCGGACCCACACATTACCTTGTGTTTTGCAAGATCTGC GGCAAGGCGTTTTCCAGACCCTGGTTGCTTCAAGGACACATTAGAACTCACACGGGGGAGAAGCC TTTTTCTTGCCCTCACTGCAACAGAGCATTTGCAGACAGGTCAAATCTGAGGGCTCATCTGCAGA CCCATTCTGATGTAAAGAAATACCAGTGCAAAAACTGCTCCAAAACCTTCTCCAGAATGTCTCTC AACAGAATGCATTTCTTCACTCCGAAGCCAAATGACAAATAAAGTCCAAAGGCATTTTCTCCTGT GAGAGAGCTGCAAGAGCATGGAATTCATGTGTTTAAAGATAATCCTTTCCATGTGAAGTTTAA AATTACTATATTTGCTGATGGCTAGATTGAGAGAATAAAAGACAGTAACCTTTCTCTTCAAAG ATAAAATGAAAAGCACATTGCATCTTTTCTTCCTAAAAAAATGCAAAGATTTACATTGCTGCCAA ATCATTTCAACTGAAAAGAACAGTATTGCTTTGTAATAGAGTCTGTAATAGGATTTCCCATAGGA

## SEQUENCE ID NO 2

MPRSFLVKKHFNASKKPNYSELDTHTVIISPYLYESYSMPVIPQPEILSSGAYSPITVWTTAAPF
HAQLPNGLSPLSGYSSSLGRVSPPPPSDTSSKDHSGSESPISDEEERLQSKLSDPHAIEAEKFQC
NLCNKTYSTFSGLAKHKQLHCDAQSRKSFSCKYCDKEYVSLGALKMHIRTHTLPCVCKICGKAFS
RPWLLQGHIRTHTGEKPFSCPHCNRAFADRSNLRAHLQTHSDVKKYQCKNCSKTFSRMSLLHKHE
ESGCCVAH

## SEQUENCE ID NO 3

GCGGAGGTGGGGGGGTCGGAGTGATTCAGCTCCCGAATGGGGGAAGAGGCTACTGCTTCCGTACC TCAAAACTAGGGCGGAAAAGGGGGGGGGAGGAAGTGGAATGGGGCGTGCATGCTAGGGAGCAAGGCTGC CAATACTTGTTTCTCCTTTCGATATGAAAGCCCCTACCCCGACCCAGGCCCCTTCACTCGGCACC GAAGGCAGGCGGAGGTCTGAAATACGGTTCCAAAGTCGCCGTCCTTCGTATCCGCAGAAGCCAGT GTGTGCACACACCCTCTGAGGCGCCAGCCCCGAGCCCTTACTCTGAAGAATTAAGGAGTGTTT GTGGGGAGGGGTACAGTTCTGGGTCTAGGAACCGAAAACCAAAACATTTTGCTCTTTAAAAATC CTGCTGCCTTTCCCAACGGCGAGAATGTTTGTGAGTGGGTGTTGAAGAGGGGGGTGCCGCCTAGAA TTGCGCCTTGGGGCTGGGAGATCTTCGTGGGCTGTTGCGGAGAGGCATTTGAACCCCAGAAGCC AGGATTCTAAAGGGTTTCCACTTCTTTTCTCTGTGTGACGCTCCCCCCCATCGTCTGACCCCGCA GCTCGATGCCAAGAAGACCCCGCTGGCGCTGTTGGCGCAAACATGTTCGCAGATCGGGAAGCCCG GGCGGTGCTGCGGGCGACAAGGACACCAAATCGGGCCCCCTGAAGCTGAGCGACATCGGCGTGGA GGACAAGTCGAGTTTCAAGCCGTACTCCAAACCCGGCTCGGATAAGAAGGAGCCGGGAGGCGGCG GTGGAGGCGGTGGCGGGGGGGGGGGGGGGGGGTGTTTCGTCGGAGAAGTCGGGATTCCGG CTGCTCGCCGGGGGTATGCTGTCCTCGGCCGGGGGTGCCCCGGAGGGCAAGGACAAGAAAG ACACCGACGTGGCCGGGGCGCAAGGGCACCGGGGGCCCTCGGCCGAAGGGGGACCCACGGGG  $\tt CTGGCACACGGCCGGATTAGCTGCGGCGGCGGGATTAATGTGGATGTGAACCAGCATCCGGATGG$ GGGCCCGGGAGGCAAGGCTCTGGGCTCGGACTGCGGCGGTTCATCGGGCTCCAGCTCCGGCTCCG GCCCCAGCGCGCCCACCTCCTCAGTGTTGGGCTCTGGGCTGGTGGCTCCCGTGTCACCCTAC AAGCCGGGCCAGACAGTGTTCCCTCTGCCTCCCGCGGGTATGACCTACCCAGGCAGCCTGGCCGG GGCCTACGCCGGCTACCCGCCCCAGTTCCTGCCACACGGCGTGGCACTTGACCCCACCAAGCCGG GCAGCCTGGTGGGGGCGCGGCGGCCGGGCCGGGTCTCTGGGCTGCAGTAAGCCGGCC GGCTCCAGCCCTTTGGCCGGAGCGTCTCCGCCGTGATGACAGCCAGTTTGTGCCGGGACCC  $\verb|TTACTGCCTCAGCTACCACTGCGCTAGCCACCTGGCAGGGGCGGCGGCGCCAGCGCTTCTTGCG| \\$ CACATGATCCGGCTGCGGCTGCGGCGCTGAAGTCCGGATACCCGCTGGTGTACCCCACGCAC GGCCGGCCACCCCTCTACCCCTACGGCTTTATGCTCCCTAACGACCCACTCCCCCACATCTGCA ACTGGGTGTCGGCCAACGGGCCGTGCGACAAGCGCTTCGCCACGTCCGAAGAGCTGCTGAGCCAC TTGCGGACCCATACGGCATTTCCCGGGACAGACAAACTGCTGTCGGGCTACCCCAGCTCGTCGTC TCTGGCCAGCGCTGCCGCGCCCATGGCTTGCCACATGCACATCCCCACCTCGGGCGCACCGG GCAGCCCTGGGACGCTGCGCAGCCCCCACCACGCGCTGGGACTCAGCAGCCGCTACCAC CCCTACTCCAAGAGCCCGCTTCCCACGCCTGGCGCCCCGTGCCGGTGCCGCCCCCCCGCACCGACC GTACTACTCCCCTACGCCCTCTACGGACAGAGACTGACCACCGCCTCGGCGCTGGGGTATCAGT

GCGGGATCACGGCCCAGGCTGCTGACACCCGCGCGTGGGGAGGACTCGGGCCACGAAAGGAAAGA AATGTATACCGTATCTACCCGACAGCAGCGACCGAGACCCGGTGGGACACTCCCCTTCTCC CCACTTTCACCTCCCCACCCAAACTTTATAAAAGTTGAAAAAATATCATTTGACTTTTTATAGAA AAAAAAAGGAAAAATAATTGAGAAAGTGTTCATCTGAGGACTGCATCGGTGGACACTGGTATTT ATTTATGTTAGCTCCAAGCGGACCGGTGGTTCAAAAGTGCATTATTTAGTTTGAGCTCTGTAGGT CTTGTAGATTATAAATAAAAGCAAAACCGCCACAGAACTAGAGGTCTTCTCTTTAATGTTACTTT TTGTTACAAAAAAATGAAAAAAAAAGTCACAATTTGTCAGCTCTGATTTCAAATTGCAATTATT AAAAAAAAAGAAAAAATTCTATTCCAAAACCTCATTTGCCTTATTTTGTTCTTTAAAAG GAACACTTAACTATTTTTAATTTTTAAGTCCACCCGCTGAGAAGGGGACAAGGTTTACGTCATGT AAAAACAAAAAACAAAAAACACTTTTGTGGCGCGCTTGAGCCTGGAGAAAAGTGTTAGACAACAC ATTGCGTATTGGGGCGCGGGGCCCCATGATGGATAAGATGACACAGGTGCACAAAGCAGTGTCCC GGACAACCAGAGGGTTCTGAGAGAACCCCAAAGGGATCTCAGAGGGCGACAAGAGGGCGTATAGA CAAAGGGACACAGAGGAGAAGTGAGAACAATTGCC

## SEQUENCE ID NO 4

#### SEOUENCE ID NO 5

GAGAGCAGACCAGGCCCGGTGGAGAATTAGGTGCTGCTGGGAGCTCCTGCCTCCCACAGGATTCC AGCTGCAGGGAGCCTCAGGGACTCTGGGCCGCACGGAGTTGGGGGCATTCCCCAGAGAGCGTCGC CATGGTCTGCAGGGAGCAGTTATCAAAGAATCAGGTCAAGTGGGTGTTTGCCGGCATTACCTGTG TGTCTGTGGTGGTCATTGCCGCAATAGTCCTTGCCATCACCCTGCGGCGGCCAGGCTGTGAGCTG GAGGCCTGCAGCCCTGATGCCGACATGCTGGACTACCTGCTGAGCCTGGGCCAGATCAGCCGGCG AGATGCCTTGGAGGTCACCTGGTACCACGCAGCCAACAGCAAGAAAGCCATGACAGCTGCCCTGA ACAGCAACATCACAGTCCTGGAGGCTGACGTCAATGTAGAAGGGCTCGGCACAGCCAATGAGACA GGAGTTCCCATCATGGCACACCCCCCCACTATCTACAGTGACAACACACTGGAGCAGTGGCTGGA CGCTGTGCTGGGCTCTTCCCAAAAGGGCATCAAACTGGACTTCAAGAACATCAAGGCAGTGGGCC CCTCCCTGGACCTCCTGCGGCAGCTGACAGAGGGAAGGCAAAGTCCGGCGGCCCATATGGATCAAC GCTGACATCTTAAAGGGCCCCAACATGCTCATCTCAACTGAGGTCAATGCCACACAGTTCCTGGC CCTGGTCCAGGAGAAGTATCCCAAGGCTACCCTATCTCCAGGCTGGACCACCTTCTACATGTCCA CGTCCCCAAACAGGACGTACACCCAAGCCATGGTGGAGAAGATGCACGAGCTGGTGGGAGGAGTG CCCCAGAGGGTCACCTTCCCTGTACGGTCTTCCATGGTGCGGGCTGCCTGGCCCCACTTCAGCTG GCTGCTGAGCCAATCTGAGAGGTACAGCCTGACGCTGTGGCAGGCTGCCTCGGACCCCATGTCGG TGGAAGATCTGCTCTACGTCCGGGATAACACTGCTGTCCACCAAGTCTACTATGACATCTTTGAG CCTCTCCTGTCACAGTTCAAGCAGCTGGCCTTGAATGCCACACGGAAACCAATGTACTACACGGG AGGCAGCCTGATCCCTCTTCTCCAGCTGCCTGGGGATGACGGTCTGAATGTGGAGTGGCTGGTTC CTGACGTCCAGGGCAGCGGTAAAACAGCAACAATGACCCTCCCAGACACAGAAGGCATGATCCTG CTGAACACTGGCCTCGAGGGAACTGTGGCTGAAAACCCCGTGCCCATTGTTCATACTCCAAGTGG CAACATCCTGACGCTGGAGTCCTGCCTGCAGCAGCTGGCCACACATCCCGGACACTGGGGCATCC ATTTGCAAATAGTGGAGCCCGCAGCCCTCCGGCCATCCCTGGCCTTGCTGGCACGCCTCTCCAGC  $\tt CTTGGCCTCTTGCATTGGCCTGTGTGGGGTTGGGGCCAAAATCTCCCACGGGAGTTTTTCGGTCCC$ CGGCCATGTGGCTGGCAGAGAGCTGCTTACAGCTGTGGCTGAGGTCTTCCCCCACGTGACTGTGG CACCAGGCTGGCCTGAGGAGGTGCTGGGCAGTGGCTACAGGGAACAGCTGCTCACAGATATGCTA GAGTTGTGCCAGGGGCTCTGGCAACCTGTGTCCTTCCAGATGCAGGCCATGCTGCTGGGCCACAG CACAGCTGGAGCCATAGGCAGGCTGCTGGCATCCTCCCCCGGGCCACCGTCACAGTGGAGCACA ACCCAGCTGGGGGCGACTATGCCTCTGTGAGGACAGCATTGCTGGCAGCTAGGGCTGTGGACAGG ACCCGAGTCTACTACAGGCTACCCCAGGGCTACCACAAGGACTTGCTGGCTCATGTTGGTAGAAA CTGAGCACCCAGGGGTGGTGGGCCAGCGGACCTCAGGGCGGAGGCTTCCCACGGGGAGGCAGGAA GAAATAAAGGTCTTTGGCTTTCTCCAGGCACTGTATGTGWGTCCTTGGGGACAGGATGGAGTGGG AGTGGGCATGATGTGGCCACTGAGGGCATCTAGAGGGTCTGGAGGCTGGGGGCCAGATCATTCCG 

CGTTGGTGGTCACATAGTTGAGAACACCTGGGGTGGCCTGGTTGTAGTAGGATACCTTGGTCAGC
TGGTCCCCCTCGCGCCAGAGGCAGAAGCCTGAGCAGAGGGTCTCTCCGCGTCTGTACTCTGGCGT
CTCTCGGTGTGTGGGCAGCGTGACCGACCTCAGCGCGATGACATAGGGGTCCCCATTGTCACAAG
GCTTCCGCCTCGAGGCCAGGATCACGAAGTCCTGGGGCTTTGTGTGACCTCCGAGGGCAGGGCTG
GTGACGTGGTAGATGGCGTCCTCGTCTACCTGCTGCACTAGCTCCACGCTCCGGTAGTGCTT
GTCCCACTCTGGC

#### SEQUENCE ID NO 6

AEQTRPGGELGAAGSSCLPQDSSCREPQGLWAARSWGHSPESVAMVCREQLSKNQVKWVFAGITC VSVVVIAAIVLAITLRRPGCELEACSPDADMLDYLLSLGQISRRDALEVTWYHAANSKKAMTAAL NSNITVLEADVNVEGLGTANETGVPIMAHPPTIYSDNTLEQWLDAVLGSSQKGIKLDFKNIKAVG PSLDLLRQLTEEGKVRRPIWINADILKGPNMLISTEVNATQFLALVQEKYPKATLSPGWTTFYMS TSPNRTYTQAMVEKMHELVGGVPQRVTFPVRSSMVRAAWPHFSWLLSQSERYSLTLWQAASDPMS VEDLLYVRDNTAVHQVYYDIFEPLLSQFKQLALNATRKPMYYTGGSLIPLLQLPGDDGLNVEWLV PDVQGSGKTATMTLPDTEGMILLNTGLEGTVAENPVPIVHTPSGNILTLESCLQQLATHPGHWGI HLQIVEPAALRPSLALLARLSSLGLLHWPVWVGAKISHGSFSVPGHVAGRELLTAVAEVFPHVTV APGWPEEVLGSGYREQLLTDMLELCQGLWQPVSFQMQAMLLGHSTAGAIGRLLASSPRATVTVEH NPAGGDYASVRTALLAARAVDRTRVYYRLPQGYHKDLLAHVGRN

## SEQUENCE ID NO 7

CTTGCAGTGGAACATGCTTCGGGTCCTGCCTGCCGGCCTCTTTGCCCACACCCCATGCCTGGTTG GCCTGTCTCTGACCCATAACCAGCTGGAGACTGTCGCTGAGGGCACCTTTGCCCACCTGTCCAAC CTGCGTTCCCTCATGCTCTCATACAATGCCATTACCCACCTCCCAGCTGGCATCTTCAGAGACCT GGAGGAGTTGGTCAAACTCTACCTGGGCAGCAACAACCTTACGGCGCTGCACCCAGCCCTCTTCC AGAACCTGTCCAAGCTGGAGCTCCCAGCCTCTCCAAGAACCAGCTGACCACACTTCCGGAGGGC ATCTTCGACACCAACTACAACCTGTTCAACCTGGCCCTGCACGGTAACCCCTGGCAGTGCGACTG CCACCTGGCCTACCTCTCAACTGGCTGCAGCAGTACACCGATCGGCTCCTGAACATCCAGACCT ACTGCGCTGGCCTGCCTACCTCAAAGGCCAGGTGGTGCCCGCCTTGAATGAGAAGCAGCTGGTG TGTCCCGTCACCCGGGACCACTTGGGCTTCCAGGTCACGTGGCCGGACGAAAGCAAGGCAGGGGG CAGCTGGGATCTGGCTGTGCAGGAAAGGGCAGCCCGGAGCCAGTGCACCTACAGCAACCCCGAGG CAGGGCTCCCTGGGACTGCAGTACAATGCTAGTCAGGAGTGGGACCTGAGGTCGAGCTGCGGTTC TCTGCGGCTCACCGTGTCTATCGAGGCTCGGGCAGCAGGGCCCTAGTAGCAGCGCATACAGGAGC TGGGGAAGGGGCCTCTGGGGCCTGACCAGGCGACAGGTAGGGGCGGAGGGGAGCTGAGTCTCCG AAGCCTTGGCTTTTCACATGCAAGGGACAGGGTTACATCCCCAAGGTGAGGGGGGTGGAGTCTGGT CTGCTCCACTAACCAGGGTCTCCTCCTCCTCTTCCTTCATCGCTTCTCCTGGAGTGTGCGGCCTA ACAAGGCCATCCTTATGCTTTGCAAAGCACCCTCAAAAGCTGCACCACAGCCTGGAGAATAAAAT ATCCTCAGCCCTGATGCCTCCCCATTATGTAACACCCCAACCGCTCTCACCTACACCCTGAGGTCT ATTCACTGCATCCCAGTGATACAAAGTGGAGGCCACTGCCTTCTGACATCTGGCTCAAAAGCCCA GTGTCTGTTTCCATTTATTTCCCTGGAATTTCATTTAAAATTGGTATAGAGAAAAAAAGGATGTG ACAGAAGCAGAGATGACCAGAAAGCACAGGGGCAGGGTTCTGACTGGCGTGTGGGAACCCTGTG AGGGGTCTAGGGGGTCGCGCCTTACAAATCATAAATTCTCATCAGATGGGTTTTATTTGACCCTG TATATCATGACTTATTTTTAATCTGACTATGGCATAACATTACAAGACGAGGCAAAAATATTTAA CCCCCAAATATATTTCCTTTGCCCTACCTTGAACTTGCCCTGCAGAGTCTCTTGTGAGGAGAATC CTCTGAAGTCTGCTGAGAGCTTCCCCTGCACAATAAAACTTGGCCTCCACAATCCTTTATCTTAA CCTGAACATTCCTTTCCATTGATCCCAGGTCTTCAGCTRAGCTCAACCAATTGTCAACCAGAAAA TGTTTAAATTTACCTACAGCCTGGAAGCACCCACCCCGCTGCTTCGAGTTGTCCTGCCTTTCTG AACTCAACCAATGTATTTCTTAAATGTATTTGATTGATGCCTCATTCCTCCCTAAAATGTATAAA ACCAAGCTGTACCTCGACCACCTTGGGCACATGTTCCCAGGCCCTCCTGAGGTCTGTCACGGG CCATGGCCACTCATATTTGGCTCAGAATAAATCTCTTCAAAWAYYYY

## SEQUENCE ID NO 8

MLPGAWLLWTSLLLLARPAQPCPMGCDCFVQEVFCSDEELATVPLDIPPYTKNIIFVETSFTTLE
TRAFGSNPNLTKVVFLNTQLCQFRPDAFGGLPRLEDLEVTGSSFLNLSTNIFSNLTSLGKLTLNF
NMLEALPEGLFQHLAALESLHLQGNQLQALPRRLFQPLTHLKTLNLAQNLLAQLPEELFHPLTSL
QTLKLSNNALSGLPQGVFGKLGSLQELFLDSNNISELPPQVFSQLFCLERLWLQRNAITHLPLSI
FASLGNLTFLSLQWNMLRVLPAGLFAHTPCLVGLSLTHNQLETVAEGTFAHLSNLRSLMLSYNAI
THLPAGIFRDLEELVKLYLGSNNLTALHPALFQNLSKLELLSLSKNQLTTLPEGIFDTNYNLFNL
ALHGNPWQCDCHLAYLFNWLQQYTDRLLNIQTYCAGPAYLKGQVVPALNEKQLVCPVTRDHLGFQ
VTWPDESKAGGSWDLAVQERAARSQCTYSNPEGTVVLACDQAQCRWLNVQLSPRQGSLGLQYNAS
QEWDLRSSCGSLRLTVSIEARAAGP

## SEQUENCE ID NO 9

TCCGCCCCGGCCCCCGCGCGCGCGCCCCTCCCCCCGGCGCGCGCGCAGAGC CAGGCCCCAGCGCTCGGCCGGCCGAGCCCGGCCGGGGGACGAGCGTCGCAGCTCATGCTGA TCGCTGTCCTCCTCCCCCTCAGGCGGCGCTGGCGGCCCCTGGGACCCGCGGAAGCCGGCA TGCTGGAGAAGCTGGAGTTCGAGGACGAAGCAGTAGAAGACTCAGAAAGTGGTGTTTACATGCGA TTCATGAGGTCACACAAGTGTTATGACATCGTTCCAACCAGTTCAAAGCTTGTTGTCTTTGATAC TACATTACAAGTTAAAAAGGCCTTCTTTGCTTTGGTAGCCAACGGTGTCCGAGCAGCGCCACTGT GGGAGAGTAAAAAACAAAGTTTTGTAGGAATGCTAACAATTACAGATTTCATAAATATACTACAT AGATACTATAAATCACCTATGGTACAGATTTATGAATTAGAGGAACATAAAATTGAAACATGGAG GGAGCTTTATTTACAAGAAACATTTAAGCCTTTAGTGAATATATCTCCAGATGCAAGCCTCTTCG ATGCTGTATACTCCTTGATCAAAAATAAAATCCACAGATTGCCCCGTTATTGACCCTATCAGTGGG AATGCACTTTATATACTTACCCACAAAAGAATCCTCAAGTTCCTCCAGCTTTTTATGTCTGATAT GCCAAAGCCTGCCTTCATGAAGCAGAACCTGGATGAGCTTGGAATAGGAACGTACCACAACATTG CCTTCATACATCCAGACACTCCCATCATCAAAGCCTTGAACATATTTGTGGAAAGACGAATATCA TCTTGCTGCTGAGAAAACATACAATAACCTAGATATCACGGTGACCCAGGCCCTTCAGCACCGTT CACAGTATTTTGAAGGTGTTGTGAAGTGCAATAAGCTGGAAATACTGGAGACCATCGTGGACAGA ATAGTAAGAGCTGAGGTCCATCGGCTGGTGGTGAAATGAAGCAGATAGTATTGTGGGTATTAT AAACGGAGTGACCGCCGTGAATGTAGACGCCCTAGGAGGAGAACTTGAACAAAGTCTCTGGGTCA CGTTTTGCCTCATGAACACTGGCTGCAAGTGGTTAAGAATGTATATCAGGGTTTAACGATAGGTA 

## SEQUENCE ID NO 10

RAARIPCGGGGGLGRVGAALPLRPRPPLPASPARPLLPAARQSQAPALGRPRARRPGTSVAAHAD RCPPPPPQAALAAALGPAEAGMLEKLEFEDEAVEDSESGVYMRFMRSHKCYDIVPTSSKLVVFDT TLQVKKAFFALVANGVRAAPLWESKKQSFVGMLTITDFINILHRYYKSPMVQIYELEEHKIETWR ELYLQETFKPLVNISPDASLFDAVYSLIKNKIHRLPVIDPISGNALYILTHKRILKFLQLFMSDM PKPAFMKQNLDELGIGTYHNIAFIHPDTPIIKALNIFVERRISALPVVDESGKVVDIYSKFDVIN LAAEKTYNNLDITVTQALQHRSQYFEGVVKCNKLEILETIVDRIVRAEVHRLVVVNEADSIVGII SLSDILQALILTPAGAKQKETETE

## SEQUENCE ID NO 11

GAAGCCTTCAGGCAGCCTCAACTCAGCCCCAAGCCACTGCTCTCCCATCCCAGTCCCTGGAAATC CACCCACTTGGCCCAGCTCACCCCAACTCCAACCCACTGGGACCCAGTCTCCAGGGGCCTGACTG TGGGCGGCAGCCACTCCTGAGTGAGCAAAGGTTCCTCCGCGGTGCTCTCCCGTCCAGAGCCCTGC GGGTGTCCTCTACGCCGACCGCAGAGGGGTCCCAGAGGGCCCAAGAGGTGAGCGAGGTCTGCACCA CCCCTGGCTGCTGATAGCAGCTGCCAGGATCCTCCAGAACATGGACCCGACCACGGAACCGTGT GACGACTTCTACCAGTTTGCATGCGGAGGCTGGCTGCGGCGCCACGTGATCCCTGAGACCAACTC AAGATACAGCATCTTTGACGTCCTCCGCGACGAGCTGGAGGTCATCCTCAAAGCGGTGCTGGAGA ATTCGACTGCCAAGGACCGGCCGGCTGTGGAGAAGGCCAGGACGCTGTACCGCTCCTGCATGAAC CAGAGTGTGATAGAGAAGCGAGGCTCTCAGCCCCTGCTGGACATCTTGGAGGTGGTGGGAGGCTG GCCGGTGGCGATGGACAGGTGGAACGAGACCGTAGGACTCGAGTGGAGCTGGAGCGGCAGCTGG CGCTGATGAACTCACAGTTCAACAGGCGCGTCCTCATCGACCTCTTCATCTGGAACGACGACCAG AACTCCAGCCGGCACATCATCTACATAGACCAGCCCACCTTGGGCATGCCCTCCCGAGAGTACTA CTTCAACGGCGGCAGCAACCGGAAGGTGCGGGAAGCCTACCTGCAGTTCATGGTGTCAGTGGCCA CGTTGCTGCGGGAGGATGCAAACCTGCCCAGGGACAGCTGCCTGGTGCAGGAGGACATGGTGCAG

GTGCTGGAGCTGGACACAGCTGGCCAAGGCCACGGTACCCCAGGAGGAGACACGACGTCAT CGCCTTGTACCACCGGATGGGACTGGAGGGAGCTGCAAAGCCARTTTGGCCTGAAGGGATTTAACT GGACTCTGTTCATACAAACTGTGCTATCCTCTGTCAAAATCAAGCTGCTGCCAGATGAGGAAGTG GTGGTCTATGGCATCCCCTACCTGCAGAACCTTGAAAACATCATCGACACCTACTCAGCCAGGAC CATACAGAACTACCTGGTCTGGCGCCTTGGTGCTGGACCGCATTGGTAGCCTAAGCCAGAGATTCA AGGACACACGAGTGAACTACCGCAAGGCGCTGTTTGGCACAATGGTGGAGGAGGTGCGCTGGCGT GAATGTGTGGGCTACGTCAACAGCAACATGGAGAACGCCGTGGGCTCCCTCTACGTCAGGGAGGC GTTCCCTGGAGACAGCAAGAGCATGGTCAGAGAACTCATTGACAAGGTGCGGACAGTGTTTGTGG AGACGCTGGACGAGCTGGATGGACGAGGAGTCCAAGAAGAGGCGCAGGAGAAGGCCATG AGCATCCGGGAGCAGATCGGGCACCCTGACTACATCCTGGAGGAGATGAACAGGCGCCTGGACGA GGAGTACTCCAATCTGAACTTCTCAGAGGACCTGTACTTTGAGAACAGTCTGCAGAACCTCAAGG TGGGCGCCCAGCGAGCCTCAGGAAGCTTCGGGAAAAGGTGGACCCAAATCTCTGGATCATCGGG GCGGCGGTGGTCAATGCGTTCTACTCCCCAAACCGAAACCAGATTGTATTCCCTGCCGGGATCCT CCAGCCCCCTTCTTCAGCAAGGAGCAGCCACAGGCCTTGAACTTTGGAGGCATTGGGATGGTGA TCGGGCACGAGATCACGCCACGGCTTTGACGACAATGGCCGGAACTTCGACAAGAATGGCAACATG ATGGATTGGTGGAGTAACTTCTCCACCCAGCACTTCCGGGAGCAGTCAGAGTGCATGATCTACCA GTACGGCAACTACTCCTGGGACCTGGCAGACGAACAGAACGTGAACGGATTCAACACCCTTGGGG AAAACATTGCTGACAACGGAGGGGTGCGGCAAGCCTATAAGGCCTACCTCAAGTGGATGGCAGAG GGTGGCAAGGACCAGCTGCCCGGCCTGGATCTCACCCATGAGCAGCTCTTCTTCATCAACTA ACAGTCCCCTGAAGTACAGGGTACTGGGGTCGCTGCAGAACCTGGCCGCCTTCGCAGACACGTTC CACTGTGCCCGGGGCACCCCCATGCACCCCAAGGAGCGATGCCGCGTGTGGTAGCCAAGGCCCTG CCGCGCTGTGCGGCCCACCCCGCTGCTCGGAGGCATCTGTGCGAAGGTGCAGCTAGCGGC CTAGGGTGCAGCCACCTGCCTGACACCCAGGGATGAGCAGTGTCCAGTGCAGTACCTGGACCGGA GCCCCTCCACAGACACCCGCGGGGCTCAGTGCCCCCGTCACAGCTCTGTAGAGACAATCAACTG TGTCCTGCCCACCCTCCAAGGTGCATTGTCTTCCAGTATCTACAGCTTCAGACTTGAGCTAAGTA AATGCTTCAAAGAAATCA

## SEQUENCE ID NO 12

SLQAASTQPQATALPSQSLEIHPLGPAHPNSNPLGPSLQGPDCGRQPLLSEQRFLRGALPSRALL MGKSEGPVGMVESAGRAGQKRPGFLEGGLLLLLLLVTAALVALGVLYADRRGIPEAQEVSEVCTT PGCVIAAARILQNMDPTTEPCDDFYQFACGGWLRRHVIPETNSRYSIFDVLRDELEVILKAVLEN STAKDRPAVEKARTLYRSCMNQSVIEKRGSQPLLDILEVVGGWPVAMDRWNETVGLEWELEROLA

LMNSQFNRRVLIDLFIWNDDQNSSRHIIYIDQPTLGMPSREYYFNGGSNRKVREAYLQFMVSVAT
LLREDANLPRDSCLVQEDMVQVLELETQLAKATVPQEERHDVIALYHRMGLEELQSQFGLKGFNW
TLFIQTVLSSVKIKLLPDEEVVVYGIPYLQNLENIIDTYSARTIQNYLVWRLVLDRIGSLSQRFK
DTRVNYRKALFGTMVEEVRWRECVGYVNSNMENAVGSLYVREAFPGDSKSMVRELIDKVRTVFVE
TLDELGWMDEESKKKAQEKAMSIREQIGHPDYILEEMNRRLDEEYSNLNFSEDLYFENSLQNLKV
GAQRSLRKLREKVDPNLWIIGAAVVNAFYSPNRNQIVFPAGILQPPFFSKEQPQALNFGGIGMVI
GHEITHGFDDNGRNFDKNGNMMDWWSNFSTQHFREQSECMIYQYGNYSWDLADEQNVNGFNTLGE
NIADNGGVRQAYKAYLKWMAEGGKDQQLPGLDLTHEQLFFINYAQVWCGSYRPEFAIQSIKTDVH
SPLKYRVLGSLQNLAAFADTFHCARGTPMHPKERCRVW

## SEQUENCE ID NO 13

CGGCGCGTCGCTGCGCCGCACGTGTGCGAGCCCGGCCGGTGAGTCGGCTGGAGCGCATCTGG TCCTCCGCGCGGAAAGCGCTGCTTTTGCCTGGCCGCCCTAGCCGCTGGCTCATCCAAGTGGCCTT CGCCGCTCTCTTGCGTCCCAACCAGAGCGCTGGCCACCTCGCCGCCCCAGCTCACGCCGCCCCGC GCTCCCAGGCTCCGGGTTTTCTTAAATGTTTTCTTGGAGCCTTAAAGATGGAGATGACAGAAATG ACTGGTGTGTCGCTGAAACGTGGGGCACTGGTTGTCGAAGATAATGACAGTGGAGTCCCAGTTGA AGAGACAAAAAAACAGAAGCTGTCGGAATGCAGTCTAACCAAAGGTCAAGATGGGCTACAGAATG ACTTTCTGTCCATCAGTGAAGACGTGCCTCGGCCTCCTGACACTGTCAGTACTGGGAAAGGTGGA AAGAATTCTGAGGCTCAGTTGGAAGATGAGGAAGAAGAGGAGGAAGATGGACTTTCAGAGGAGTG CGAGGAGGAGGATCAGAGAGTTTTGCAGACATGATGAAGCATGGACTCACTGAGGCTGACGTAG TTCGTTGTTCATGAAATAGGAAAAGATGGACGGATCAGCCATTTGAATGACTTGTCCATTCCAGT GGATGAGGAGGACCCTTCAGAAGACATATTTACAGTTTTGACAGCTGAAGAAAAGCAGCGATTGG AAGAGCTCCAGCTGTTCAAAAATAAGGAAACCAGTGTTGCCATTGAGGTTATCGAGGACACCAAA GAGAAAAGAACCATCATCCATCAGGCTATCAAATCTCTGTTTCCAGGATTAGAGACAAAAACAGA GGATAGGGAGGGAAAAATACATTGTAGCCTACCACGCAGCTGGGAAAAAGGCTTTGGCAAGTA GGTGTCTGTGAGCAGCTTCCTCCTGCCAGGCAGCCGTGAGCGGCAGGCCCCGCTCCTCGTTAGCC TTGCCCGTTCGTGTTCAAGGGCTACTATAGTGCTGCTCAGAGAACAATATTGATCATGTCCCTCC TTCAGAGAGGGGGGGAACTGCAAGATCCAAGAAAACATTCTTGGCCAAAATCTAGGGGAAGTT ACTGCCACTTCGTACTATATAAGGAAAACAAAGACACCATGGATGCTATTAATGTACTCTCCAAA TACTTAAGAGTCAAGCCAAATATATTCTCCTACATGGGAACCAAAGATAAAAGGGCTATAACAGT TCAAGAAATTGCTGTTCTCAAAATAACTGCACAAAGACTTGCCCACCTGAATAAGTGCTTGATGA ACTTTAAGCTAGGGAATTTCAGCTATCAAAAAAACCCACTGAAATTGGGAGAGCTTCAAGGAAAC CACTTCACTGTTGTTCTCAGAAATATAACAGGAACTGATGACCAAGTACAGCAAGCTATGAACTC

TCTCAAGGAGATTGGATTTATTAACTACTATGGAATGCAAAGATTTGGAACCACAGCTGTCCCTA CGTATCAGGTTGGAAGACTATACTACAAAATTCCTGGACAGAAGTCATGGATTTAATATTGAAA CCCCGCTCTGGAGCTGAAAAGGGCTACTTGGTTAAATGCAGAGAAGAATGGGCAAAGACCAAAGA CCCAACTGCTGCCCTCAGAAAACTACCTGTCAAAAGGTGTGTGGAAGGGCAGCTGCTTCGAGGAC TTTCAAAATATGGAATGAAGAATATAGTCTCTGCATTTGGCATAATACCCAGAAATAATCGCTTA ATGTATATTCATAGCTACCAAAGCTATGTGTGGAATAACATGGTAAGCAAGAGGATAGAAGACTA TGGACTAAAACCTGTTCCAGGGGACCTCGTTCTCAAAGGAGCCACCACCCTATATTGAGGAAG ATGATGTTAATAATTACTCTATCCATGATGTGGTAATGCCCTTGCCTGGTTTCGATGTTATCTAC CCAAAGCATAAAATTCAAGAAGCCTACAGGGAAATGCTCACAGCTGACAATCTTGATATTGACAA CATGAGACACAAAATTCGAGATTATTCCTTGTCAGGGGCCTACCGAAAGATCATTATTCGTCCTC AGAATGTTAGCTGGGAAGTCGTTGCATATGATGATCCCAAAATTCCACTTTTCAACACAGATGTG GACAACCTAGAAGGGAAGACACCACCAGTTTTTGCTTCTGAAGGCAAATACAGGGCTCTGAAAAT GGATTTTTCTCTACCCCCTTCTACTTACGCCACCATGGCCATTCGAGAAGTGCTAAAAATGGATA CCAGTATCAAGAACCAGACGCAGCTGAATACAACCTGGCTTCGCTGAGCAGTACCTTGTCCACAG ATTAGAAAACGTACACAAGTGTTTGCTTCCTGGCTCCCTGTGCATTTTTGTCTTAGTTCAGACTC ATATATGGATTTCAAATCTTTGTAATAAAAATTATTTGTATTTTTAAGTTTTTAATTAGCTTAAAG AAATAATTTGCAATATTTGTACATGTACACAAATCCTGAGGTTCTTAATTTTAGCTCAGAATATA AATTAGTCAAAATACACTTCAGGTGCTTAAATCAGAGTAAAATGTCAGCTTTACAATAATAAAA AAGGACTTTGGTTTAAAGTAGCAGGTTTAGGTTTTGCTACATTCTCAAAAGACAGCAGGAGTATT TGACACATCTGTGATGGAGTATACAACAATGCATTTTAAGAGCAAATGCAACAAAACAAATCTGG ATAATAAGACATCTACAAATTTATAAACAAAAAGTGATTGTCATTATCCTGCTTATGTACTAGAT TCAGGCAAGCATTATAGACTTTTTGGTTGCGGTGGCTTTTTGCATTTATATTATCAATGCCTTGCA GTAGCACAGGCTGGATTGCAGTGCAATCCTGCAATTCTCAATCTTGCACTGCAGCCTCGACCTCC CAGGCTCCAGTGACTCTCCCACCTCAGCCTCCTAAGTAGCTGGGAGTACAGGCGCGCACCACCAC GCCTAGCTGATTTTTTTTTTTTTTTTGTAGAGACGGGGGTTTGGCCATGTTGCCGAGGCTAACTCC TTTATTAGTTAAGGTCTAATTTTTACTCTAGGTGCCTTTTATGTTCAGAACTCTTTCCACTGGAC TGGTATTTGCTCAAAAATAAATAATGGTAGAGAAGAAAACTATAAAAATGGACAAGGCTTTCTTC TATCAGTAGCGTTTACCCTTTGTCACCAGTGGCTTTGGTATTTCCATGTCTGGCATTGCATAAAC TTCTCTGGTGTGAAAGGATAAATATGCCTTTCTAAAGTTGTATATCAAAATTGTATCAATTTTTA TTTTCTATGATTTCTAGAAACAAATGTAATAAATATTTTTAAAATCTCCTTTCTACTGGTTATGT AAATAAATCAAATAAATATATC

## SEQUENCE ID NO 14

ARRCAARVRARPPVSRLERIWSSARKALLLPGRPSRWLIQVAFAALLRPNQSAGHLAAQLTPRPR
SQAPGFLKCFLGALKMEMTEMTGVSLKRGALVVEDNDSGVPVEETKKQKLSECSLTKGQDGLQND
FLSISEDVPRPPDTVSTGKGGKNSEAQLEDEEEEEEDGLSEECEEESESFADMMKHGLTEADVG
ITKFVSSHQGFSGILKERYSDFVVHEIGKDGRISHLNDLSIPVDEEDPSEDIFTVLTAEEKQRLE
ELQLFKNKETSVAIEVIEDTKEKRTIIHQAIKSLFPGLETKTEDREGKKYIVAYHAAGKKALASE
VSVSSFLLPGSRERQAPLLVQPCPFVFKGYYSAAQRTILIMSLLQRGGQNCQDPRKHSWPKSRGS
YCHFVLYKENKDTMDAINVLSKYLRVKPNIFSYMGTKDKRAITVQEIAVLKITAQRLAHLNKCLM
NFKLGNFSYQKNPLKLGELQGNHFTVVLRNITGTDDQVQQAMNSLKEIGFINYYGMQRFGTTAVP
TYQVGRAILQNSWTEVMDLILKPRSGAEKGYLVKCREEWAKTKDPTAALRKLPVKRCVEGQLLRG
LSKYGMKNIVSAFGIIPRNNRLMYIHSYQSYVWNNMVSKRIEDYGLKPVPGDLVLKGATATYIEE
DDVNNYSIHDVVMPLPGFDVIYPKHKIQEAYREMLTADNLDIDNMRHKIRDYSLSGAYRKIIIRP
QNVSWEVVAYDDPKIPLFNTDVDNLEGKTPPVFASEGKYRALKMDFSLPPSTYATMAIREVLKMD

## SEQUENCE ID NO 15

GGGCACCAGTTGTCAGGAGTTGACAGGAGGGCATAGCCAGGAACAGCTGGTGTCTCCTTACTGGG ACATGCTGTGACCTGTAGAATCGTGTCTGACCATTTCTGGAGGATGCAGTACTGAATTCAAGTAA CAAGGTGTCCTGTGAACCCCCCACAGTCAGATGGGTGAGGGATGGGGAGGGTCACGCAGGGTGTG GGCGGCGTGCCTGGCAAGTTCGTCAGGTAACGTGATACTTCTCCCTTGCTTTT TGGTAGATGGACAGTGTCACCCTCGGGGAGCAGGTGGGCTGGCAGGACAGGCGGCCCCAGGCC GGGAGAAGGAGACACTCCCAGGTCGGTAGGCTCCACGACAAAAGTCAACCCTTCTGTAAATCACC TGCTGTGGTTATGATGCTCTGAGTTCAATACGTCTGAACCTTTGCTGTCTATGGATCTGCTCTAA ACCTTATAGCCTGCTTATGGGGGAAGGTGACGCCTTCTGGGCCCCATCTGTCCTCACAGCA CCCTCAGCACCTTAAGCCACCACCCTCAGCCACAATTTGGCAGAAGGATGGAGTCCAAGGTCTCA GAAGGTGGCCTGAATGTGACCCTCACCATCCGCCTGCTGATGCATGGAAAGGAAGTTGGAAGCAT CATCGGGAAGAAGGAGAACTGTGAAGAAGATGCGTGAGGAGGAGTGGTGCAAGGATCAACATCT CAGAGGGAAACTGCCCAGAGAGGATTGTGACCATCACAGGCCCCACAGACGCCATCTTCAAGGCC TTTGCCATGATCGCATACAAGTTTGAGGAGGATATCATCAACTCCATGAGCAACAGCCCŢGCCAC AAGGAGGCTCCAAGATCAAGGAGATCAGGGAGTCCACAGGTGCCCAGGTGCAGGTGGCTGGGGAC ATGCTGCCCAACTCCACGGAGCGAGCGGTGACCATCTCGGGGGACCCCAGATGCCATCATCCAGTG CGTCAAGCAGATCTGTGTGGTCATGCTGGAGTCCCCACCGAAAGGTGCCACCATTCCCTACCGCC CAAAGCCCGCCTCCACCCTGTCATTTTTGCAGGTGGTCAGGCCTACACAATCCAGGGACAGTAT

GCCATCCCTCACCGGATCAGTTGACCAAGCTCCACCAGTTGGCCATGCAGCAAACCCCCTTTCC TCCCCTCGGACAGCCCAACCCCGCTTTCCCCGGAGAAAAGCTGCCTTTACACTCCTCCGAAGAAG CTCAAAATCTGATGGGCCAGTCATCAGGTCTGGACGCCAGCCCACCGGCCAGCACTCATGAGCTC ACCATTCCCAATGATCTAATAGGCTGCATAATTGGACGCCAAGGGACCAAAATCAATGAAATTCG ACAGATGTCTGGAGCTCAGATCAAAATCGCCAACGCCACGGAAGGGTCCTCAGAGCGTCAGATCA CCATCACGGGGACCCCGGCCAACATCAGCCTTGCCCAGTATCTCATCAACGCCAGGCTGACGTCC AGAGCCTAAGGCCCCGGCTCTCGCACTCTGTACAGCCCACCTTCCCTGCCTCACAGATACCAAT AGAGAGGTTTTCTTAATTAACAAAAGGACGTATGCCATGGAGAAACACACCCGCGCACACAGCTG TCCCGTCTGCCCATGCACCGGCATGCAGTGGTAATTATTTTAGAAATATTGTTCCTTGGTGTCAG  $\tt CGTAGCTGTCTTAGGAGCTGGGTCGGCGTTCCGACAGCACTTCCTGTCCGCCCTTCTCCTC$ TGCCATCCAGAACCGTCCAGAACTGTTGCCTGAGACCCCTCCTCTCTCACACAGCCCTGCCATGC TGACTCGGTTTCCCCTCAGAGCCATTGTTGTCTGGGCTCGAGTTTCTGCCCCAGGTTGTGTGCTG GAATCGGGGGGTGGCTCTCCTGCCACCCATGGGGAGCGCCCAGGAGAGGGGGGTCATGGAGGATGT TGGGGCTCTGACCCCAGGAGTGGGGTGGAGGGCGGAGCCTGCTGGAGGCCCTGCCTTCACAGAGA TGCCGCGTGCTGGGAAGGCTCTTGGGGTCCCCTGAGCGTCTTCCAGGGTGGCTGGAGAGCACAGA CGCGCCAGGGAGCCCCCTCTGTGCTCCTCAGAGTTCAATAAATGTCGTGGCCCCTCCTCA

## SEQUENCE ID NO 16

MGEGDAFWAPSVLPHSTLSTLSHHPQPQFGRRMESKVSEGGLNVTLTIRLLMHGKEVGSIIGKKG
ETVKKMREESGARINISEGNCPERIVTITGPTDAIFKAFAMIAYKFEEDIINSMSNSPATSKPPV
TLRLVVPASQCGSLIGKGGSKIKEIRESTGAQVQVAGDMLPNSTERAVTISGTPDAIIQCVKQIC
VVMLESPPKGATIPYRPKPASTPVIFAGGQAYTIQGQYAIPHPDQLTKLHQLAMQQTPFPPLGQT
NPAFPGEKLPLHSSEEAQNLMGQSSGLDASPPASTHELTIPNDLIGCIIGRQGTKINEIRQMSGA
QIKIANATEGSSERQITITGTPANISLAQYLINARLTSEVTGMGTL

## SEQUENCE ID NO 17

GGAGGTCGCCGTCAAGTGCATTAACAAGAAGAACCTCGCCAAGTCTCAGACGCTGCTGGGGAAGG AAATCAAAATCCTGAAGGAACTGAAACATGAAAACATCGTGGCCCTGTACGACTTCCAGGAAATG GCTAATTCTGTCTACCTGGTTATGGAGTACTGCAACGGTGGGGACCTGGCCGACTACCTGCACGC CATGCGCACGCTGAGCGAGACACCATCAGGCTCTTCCTGCAGCAGATCGCGGCGCCCATGCGGC TTCTGCACAGCAAAGGCATCATCCACCGCGACCTGAAACCGCAGAACATCCTGCTGTCCAACCCC GCCGGCCGCCGCCAACCCCCAACAGCATCCGCGTCAAGATCGCTGACTTCGGCTTCGCGCGGTA CCTCCAGAGCAACATGATGGCGGCCACACTCTGCGGCTCCCCCATGTACATGGCCCCCGAGGTCA TCATGTCCCAGCACTACGACGGGAAGGCGGACCTGTGGAGCATCGGCACCATCGTCTACCAGTGC CTGACGGGGAAGGCCCCTTCCAGGCCAGCACCCCCAGGACCTGCGCCTGTTCTACGAGAAGAA CAAGACGTTGGTCCCCACCATCCCCGGGAGACCTCGGCCCGCTGCGGCAGCTGCTCCTGGCCC TACTGCAACGCAACCACAAGGACCGCATGGACTTCGATGAGTTTTTTCATCACCCTTTCCTCGAT GCCAGCCCTCGGTCAGGAAATCCCCACCCGTGCCTGTGCCCTCGTACCCAAGCTCGGGGTCCGG CAGCAGCTCCAGCAGCTCCCACCTGGCCTCCCGCCGTCCCTGGGCGAGATGCAGC AGCTGCAGAAGACCCTGGCCTCCCCGGCTGACACCGCTGGCTTCCTGCACAGCTCCCGGGACTCT GGTGGCAGCAAGGACTCTTCCTGTGACACAGATGACTTCGTCATGGTCCCCGCGCAGTTTCCAGG TGACCTGGTGGCTGAGGCGCCCAGTGCCAAACCCCCGCCAGACAGCCTGATGTGCAGTGGGAGCT CACTGGTGGCCTCTGCGGGCTTGGAGAGCCACGGCCGGACCCCATCTCCATCCCCACCCTGCAGC  ${\tt AGCTCCCCAGTCCCTCAGGCCGGGCTGGCCCGTTCTCCAGCAGCAGGTGCGGCGCCTCTGTCCC}$ AGTTCCAAACACCTCGGTCCTCTGCCATCCGCAGGTCAGGCAGCACCAGCCCCCTGGGCTTTGCA  ${\tt AGGGCCAGCCCCTGCCCACGCTGAGCATGGAGGCGTCCTGGCCAGGAAGATGTCTCT}$ GGGTGGAGGCCGTACACGCCATCTCCTCAAGTTGGAACCATCCCTGAGCGGCCAGGCTGGA  ${\tt GCGGGACGCCTCCCCACAGGGAGCTGAGATGCGGGGTGGCAGGTCCCCTCGTCCAGGCTCCTCT}$ GCACCCGAGCACTCTCCCGCACTTCCGGGCTGGGCTGCCCCCCACCTGTC TGACTTGCACGTCGTCCGCCCCAAGCTGCCCAAACCCCCCACGGACCCCCTGGGAGCTGTTCA GCCCACCACAGGCCAGCCCTCCCCAGCCGTCCCACGGCCTGCAGTCCTGCCGGAACCTGCGGGGC TCACCCAAGCTGCCCGACTTCCTGCAGCGAAACCCCCTGCCCCCATCCTGGGCTCCCCCACCAA GGCTGTGCCCTCCTTTGACTTCCCGAAGACCCCCAGCTCCCAGAACCTGCTGGCCCTCCTAGCCC GGCAGGCGTGGTGATGACGCCCCTCGAAACCGGACGCTGCCCGACCTCTCGGAGGTGGGACCC TTCCATGGTCAGCCGTTGGGCCTGGCCTGCGCCAGGCGAGGACCCCAAGGGCCCCTTTGGCCG GTCTTTCAGCACCAGCCGCCTCACTGACCTGCTCCTTAAGGCGGCGTTTGGGACACAAGCCCCGG ACCCGGGCAGCACGGAGAGCCTGCAGGAGAAGCCCATGGAGATCGCACCCTCAGCTGGCTTTGGA GGGAGCCTGCACCCAGGAGCCCGTGCTGGGGGCACCAGCAGCCCTTCCCCGGTGGTCTTCACCGT GGGCTCTCCCCGAGCGGGAGCACGCCCCCCAGGGCCCCCGCACCAGGATGTTCTCAGCGGGCC CCACTGGCTCTGCCAGCTCTTCTGCCCGCCACCTGGTGCCTGGGCCCTGCAGCGAGGCCCCAGCC

CCTGAGCTCCCTGCTCCAGGACACGGCTGCAGCTTTGCCGACCCCATTGCTGCGAACCTGGAGGG GGCTGTGACCTTCGAGGCCCCCGACCTCCTGAGGAGCCCTCATGGAGCAAGAGCACACGGAGA TCCTGCGTGGCCTGCGCTGCTGTTCGTGCAGCACGTCCTGGAGATCGCAGCCCTGAAG GGCAGCGCCAGTGAGGCGGGGGGGGCCCTGAGTACCAGCTGCAGGAGAGTGTGGTGGCCGACCA GATCAGCCTGCTGAGCCGAGAATGGGGCTTCGCGGAACAGCTGGTGCTGTACCTGAAGGTGGCCG AGCTACTGTCCTCCGGCCTGCAAAGTGCCATCGACCAGATCCGGGCCGGCAAGCTCTGCCTGTCG TCCACTGTGAAGCAGGTGGTGCGCAGGCTGAATGAGCTGTACAAGGCCAGCGTGGTGTCCTGCCA GGGCCTGAGCCTGCAGCGCTTCTTCCTGGACAAGCAGCGGCTCCTGGACCGCATTCACA GCATCACTGCCGAGAGGCTCATCTTCAGCCACGCTGTGCAGATGGTGCAGTCGGCTGCCCTGGAC GAGATGTTCCAGCACCGTGAGGGCTGCGTCCCACGCTACCACAAGGCCCTGCTGCTCCTGGAGGG GCTGCAGCACATGCTCTCGGACCAGGCCGACATCGAGAACGTCACCAAGTGCAAGCTGTGCATTG  ${\tt AGCGGAGACTCTCGGCGTGCTGACTGGCATCTGTGCCTGACCTTTCTGGCCTGGCCTGGCCCCCC}$  $\tt CGCTGATCGCTGGTGCTGAGCCCTGCCCTGGGCCCCACGGACAGTCAGCCTGCCGGCCTCCCTGC$ AGCTCACGGGGCAGAACCAGCATCTGGAGCCACACAGCTTGGGGGGGTGTCTCCCATCTTTTAC AGGTGGGGATCACAGAATTTCTGCCCCTCCAGCTGCCTGGCTCAGCAGGCGTGGGTGCCACCACC CTCTAGCCCCAGGGCAGCCCCGGAGGACAGGCCAAGGCCTGAGACCACTGCCGACTCAAAGCCAA AGCGAGCTCCTGCTTAGGGCAGGTCAGCAGGCACTGTGCCCAGGAAGAGCCTGCGGCCTCGGCGT TTATGCATATAGAGACAGAACCTGGACCTCACCAGGGACTGCTGGGCAGCGATTCCTGGCAGTGG CCTGGTGTTTGTACATACACATATGCAGACACATGCCAGGGCCCCCCAAGCCCGAGCACCGGACC ACGTTGCTGCCCAGGTCTGGACCTCAGCGGGAGAACTGGCTCCGGGGGGGAGTGGGGCCCTGCGCT AGAGGCAGAGGCAGTTCTTTGTTCAAGCGTTCCTCTGGGGACCGGCAGCAGAGGCACCGTGTTCT CTCAGCCCTGGATACGTCTTGTAATCTTTCACACTTTATTCCTAAAACGTGTCTTATTTTTATGC AGCTCATTTTTCTTTAAAGGAGAAAACTTGTAGGTGTTTAAGAATTGGTTTTTGGGAGGGCGAGG CCTGTGTTGGTGGCTGTCCCCTGCCGCCCCTCCCTGTGGCAGCAGCAGGACAGGTGTGTGCCCAG CACCCTCCCTACCTGGGCCTGGAAGCAGATGAGGGGAATACTTCATGCAAAGAAAAAGTAACAT GTGCAAAAGCTCCCCGTCCAGCTTTGACAGTCAGTTTTGATGTCAGCTCCTCGGCAGGGTAGGCC TGATGACAGCCCTGTCCCTGCCTCTGCCTTGCCCAAGGCCACGGAGGGCGTCTGCAGAGAG GTCCCCAGTCTGCGGGGGCCATGGGGCCCATGCGGGGGGTTCCAGGGTCACACG CCACATAACAGACAAAAATACACACGTGTGTTTTTCTTTGCAATACTTGAAATATTGCCACTG TGCTTGGACTTAGAAGAAAATCCCCGTGACTTCTTCCTCATCACCTTGATGGCTTTATTCTC ACCTTGTGGGGCATGTTTGTATTTATTGCTTCATGGCCGACTGGAATCCTGAGTCCTGGGAAGCT

GGCACTGCGGGGATCTTGCCCGGTGTCCTGGTCCTCTTGCTTCCGTCGCGGCCGCATGTGCGTGT
GTCCAAGCAGGTCCTGGGCGCCTCAACTGCTGCCCCTGGTTGAATGTTCTCTTGATAGTGCTGGA
CCCTTTGTCTATTTTAAAGCGAATTTTGTGTGATTTCCTGCCCTTTGCGTTATATTGTATAATAC
CAACGTAAGGAAATAAACCTTTGGAATTGTTGGGCTGGTGTCACCACTT

## SEQUENCE ID NO 18

MEPGRGGTETVGKFEFSRKDLIGHGAFAVVFKGRHREKHDLEVAVKCINKKNLAKSQTLLGKEIK ILKELKHENIVALYDFQEMANSVYLVMEYCNGGDLADYLHAMRTLSEDTIRLFLQQIAGAMRLLH SKGIIHRDLKPQNILLSNPAGRRANPNSIRVKIADFGFARYLQSNMMAATLCGSPMYMAPEVIMS QHYDGKADLWSIGTIVYQCLTGKAPFQASSPQDLRLFYEKNKTLVPTIPRETSAPLRQLLLALLQ RNHKDRMDFDEFFHHPFLDASPSVRKSPPVPVPSYPSSGSGSSSSSSSTSHLASPPSLGEMQQLQ KTLASPADTAGFLHSSRDSGGSKDSSCDTDDFVMVPAQFPGDLVAEAPSAKPPPDSLMCSGSSLV ASAGLESHGRTPSPSPPCSSSPSPSGRAGPFSSSRCGASVPIPVPTQVQNYQRIERNLQSPTQFQ TPRSSAIRRSGSTSPLGFARASPSPPAHAEHGGVLARKMSLGGGRPYTPSPQVGTIPERPGWSGT PSPQGAEMRGGRSPRPGSSAPEHSPRTSGLGCRLHSAPNLSDLHVVRPKLPKPPTDPLGAVFSPP QASPPQPSHGLQSCRNLRGSPKLPDFLQRNPLPPILGSPTKAVPSFDFPKTPSSQNLLALLARQG VVMTPPRNRTLPDLSEVGPFHGQPLGPGLRPGEDPKGPFGRSFSTSRLTDLLLKAAFGTQAPDPG STESLQEKPMEIAPSAGFGGSLHPGARAGGTSSPSPVVFTVGSPPSGSTPPQGPRTRMFSAGPTG SASSSARHLVPGPCSEAPAPELPAPGHGCSFADPIAANLEGAVTFEAPDLPEETLMEQEHTEILR GLRFTLLFVQHVLEIAALKGSASEAAGGPEYQLQESVVADQISLLSREWGFAEQLVLYLKVAELL SSGLQSAIDQIRAGKLCLSSTVKQVVRRLNELYKASVVSCQGLSLRLQRFFLDKQRLLDRIHSIT AERLIFSHAVQMVQSAALDEMFQHREGCVPRYHKALLLLEGLQHMLSDQADIENVTKCKLCIERR LSALLTGICA

## SEQUENCE ID NO 19

TGCTCCACCTTCTACCCTGTCACTTCCCCCCAAGGTTCCAGGGCAGGTTACCGTTACCATGGAGA GTAGCATCCCTCAAGCTTCAGCCATTCCTGTGGCAACAATCAGTGGACAACAGGGCCATCCCAGT AACCTGCATCACATGACTACAAATGTGCAAATGTCTATCATCCGCAGCAATGCTCCTGGGCC CCCTCTTCACATTGGAGCTTCTCATTTACCTCGAGGTGCAGCTGCTGCTGCTGTGATGTCCAGTT GTACAGCACCATCACCAACCAATCCAGTCTCGGCCACCTGTGACCACCTCCAATGCCATCCC TCCTGCTGTGGTAGCAACTGTCTCAGCCACCAGAGCTCAGTCTCCAGTCATCACTACGACAGCGG CGCATGCTACTGATTCAGCACTTAGTAGGCCAACCTTGTCTATCCAGCATCCTCCATCTGCAGCA ATCAGTATTCAGCGTCCTGCCCAGTCACGAGATGTCACAACAAGAATCACACTACCATCTCACCC TGCATTAGGGACGCCAAAACAGCAGCTTCATACAATGGCTCAGAAAACAATCTTCAGTACTGGCA GCTGGATCTGTGTCACACACGCAAGCTCCCACAAGTACCATTGTTACCATGACAGTACCCTCCCA TTCCTCCCATGCTACTGCTGTGACCACCTCAAACATCCCAGTCGCCAAGGTGGTGCCCCAGCAGA TCACGCACACTTCTCCTCGGATCCAGCCAGACTACCCTGCCGAGAGGAGTAGCCTGATTCCCATC TCCGGACATCGGGCCTCTCCCAATCCTGTGGCCATGGAAACCCGAAGTGACAACAGACCGTCTGT TCCCGTTCAGTTCCAATATTTTTTGCCAACTTACCCCCCTTCTGCATACCCACTGGCGGCACATA CCTACACCCCAATCACCAGTTCCGTGTCCACTATCCGACAGTATCCAGTTTCAGCTCAGGCTCCA AACTCTGCCATCACAGCTCAGACTGGTGTTGGGGTAGCGTCTACCGTCCACCTAAACCCCATGCA CCCAGGGTATCCAGCCGGCCCCATTGGGACCCCAGGGATACAGCCTGCACCACTTGGCACACAG GGAATTCACTCAGCAACCCCAATCAACACACAAGGGCTTCAGCCTGCACCTATGGGTACTCAGCA GCCTCAGCCTGAAGGAAAGACTTCAGCAGTGGTGTTGGCAGATGGAGCCACAATTGTGGCCAACC CTATTAGCAATCCATTCAGTGCTGCTCCAGCAGCAACAACCGTGGTGCAGACCCACAGCCAGAGT GCTAGCACCAACGCTCCCGCCCAGGGCTCATCGCCACGGCCAAGCATACTCCGGAAGAACCTGC CACAGATGGAATGGCAGTTCGGAAAACCCTCATTCCTCCTCAGCCTCCTGATGTTGCTAGTCCTC GAGTGGAAAGCTCTATGCGGAGTACGTCTGGGTCACCTAGGCCTGCAGGTGCCAAACCCAAGTCT GAAATCCACGTGTCTATGGCCACTCCGGTCACTGTGTCCATGGAGACTGTATCCAATCAAAATAA  $\tt TTGCAGCCAGTCCCCGTCACAACCAGCCGTTGCCCTTTCAACCATTCCTGGAGCGGTCCCC$ TTCCTCCGTCTTGGGCCCTCCCGTTCCTGAAATTAAAGTGAAAGAAGAAGTAGAACCAATGGATA TCATGAGGCCAGTTTCTGCAGTTCCTCCACTGGCTACCAACACTGTGTCTCCATCTCTTGCATTG CTGGCAAACAACTTGTCCATGCCTACAAGTGACCTACCACCTGGTGCCTCCCCAAGGAAAAAGCC TCGAAAGCAACAGCATGTGATCTCAACAGAAGAAGGTGACATGATGGAGACAAACAGCACTGATG ATGAGAAGTCCACTGCCAAGAGTCTTCTGGTGAAGGCTGAGAAGCGCAAGTCTCCTCCCAAGGAG

TATATTGATGAGGAAGGTGTGAGATATGTCCCAGTGCGTCCAAGACCCCCCATTACTTTGCTTCG TCACTATCGGAACCCCTGGAAAGCTGCTTACCACCACTTTCAGAGGTACAGTGACGTCCGGGTCA AAGAGGAGAAAGCTATGCTGCAGGAAATAGCTAATCAGAAAGGAGTATCCTGTCGTGCTCAA GGCTGGAAAGTCCACCTCTGTGCTGCCCAGTTACTACAGCTGACGAATCTAGAACATGATGTCTA TGAAAGACTTACTAACCTGCAGGAAGGGATTATCCCAAAGAAAAAGCAGCAACAGATGATGATC TCCACCGAATAAACGAACTGATACAGGGAAATATGCAGAGGTGTAAACTTGTGATGGATCAAATC AGTGAAGCCAGAGACTCCATGCTTAAGGTTTTAGATCATAAAGACCGTGTCCTGAAGCTGCTTAA CAAGAACGGGACTGTCAAAAAAGTGTCCAAATTGAAGCGAAAGGAAAAAGTCTAGACCCAGAACA TCCAAAGTGGAACATTGAAATAAAGGAAGTGTTCCTTAGTTCCCGTGTGAAAGCAGAGGAACCCA TGACATCCAAGGGCGTGAAAGGATCAGAGCTGACTGGACATAGTGAGCTGCCTTCTTGCGTTCGG GTGCACCCTGTTAAACCTGATCTGTGTCATAAGTGACTCCGGATGCATCAGTGTCCACCAGTTG GAAGCAATGACAAGGATGGCTGGCTGTTTTTCAGCCTTCCGGTTTATAGACTGTATTTATCT AGTGGATTCCTGCAGGCCCCATACTGAGCCTGGACTGAAAGTATCCACTCGGACCATCTGTTATC TCTCTACACTGAAAATAAAACCTCTTCCACCCACCCCATTCGGTTCTTCTGCCTGACCTTCAAAT GCCCATGTTGGCCTTTTACAGCAGTGCCACGGCACCAAGCGAGCTGCCACATCTCACACTCTAAA GGGTTTGAACTATTAGTTCTTGTCATTTTTTAAAAAAAACCATTCCCAAGTGAAATTGTTATATC GTCTGTCTTGCGTGTCAGAACTGGGTTTTTGTGGAGGTTCAGAGCAGCAACACCATAAGTTG CTCTCAGATCCTTGTTCTGAAGTACATTCTTGGTTATCTGTACTTCTGTAGCTGGTGATGCTG TTAATTGTATGTACCACACATCTCCAGACGTTAATAAAGGACTCAAAGAGGTTTTTGTA

## SEQUENCE ID NO 20

MGPPRHPQAGEIEAGGAGGRRLQVEMSSQQFPRLGAPSTGLSQAPSQIANSGSAGLINPAATVN
DESGRDSEVSAREHMSSSSSLQSREEKQEPVVVRPYPQVQMLSTHHAVASATPVAVTAPPAHLTP
AVPLSFSEGLMKPPPKPTMPSRPIAPAPPSTLSLPPKVPGQVTVTMESSIPQASAIPVATISGQQ
GHPSNLHHIMTTNVQMSIIRSNAPGPPLHIGASHLPRGAAAAAVMSSSKVTTVLRPTSQLPNAAT
AQPAVQHIIHQPIQSRPPVTTSNAIPPAVVATVSATRAQSPVITTTAAHATDSALSRPTLSIQHP
PSAAISIQRPAQSRDVTTRITLPSHPALGTPKQQLHTMAQKTIFSTGTPVAAATVAPILATNTIP
SATTAGSVSHTQAPTSTIVTMTVPSHSSHATAVTTSNIPVAKVVPQQITHTSPRIQPDYPAERSS
LIPISGHRASPNPVAMETRSDNRPSVPVQFQYFLPTYPPSAYPLAAHTYTPITSSVSTIRQYPVS
AQAPNSAITAQTGVGVASTVHLNPMQLMTVDASHARHIQGIQPAPISTQGIQPAPIGTPGIQPAP
LGTQGIHSATPINTQGLQPAPMGTQQPQPEGKTSAVVLADGATIVANPISNPFSAAPAATTVVQT
HSQSASTNAPAQGSSPRPSILRKKPATDGMAVRKTLIPPQPPDVASPRVESSMRSTSGSPRPAGA
KPKSEIHVSMATPVTVSMETVSNQNNDQPTIAVPPTAQQPPPTIPTMIAAASPPSQPAVALSTIP

GAVPITPPITTIAAAPPPSVTVGGSLSSVLGPPVPEIKVKEEVEPMDIMRPVSAVPPLATNTVSP SLALLANNLSMPTSDLPPGASPRKKPRKQQHVISTEEGDMMETNSTDDEKSTAKSLLVKAEKRKS PPKEYIDEEGVRYVPVRPRPPITLLRHYRNPWKAAYHHFQRYSDVRVKEEKKAMLQEIANQKGVS CRAQGWKVHLCAAQLLQLTNLEHDVYERLTNLQEGIIPKKKAATDDDLHRINELIQGNMQRCKLV MDQISEARDSMLKVLDHKDRVLKLLNKNGTVKKVSKLKRKEKV

#### SEQUENCE ID NO 21

CAGCCATCAGCCCGCCCTTGTCAGTATCAGCCACGTCCAGTCCTCAGCAGACCAGCAGTGGAACA AACAATAAACCTTAC

## SEQUENCE ID NO 22

VVXVXLILAXRGVHPXAXEQSTSSVIRLNSPTTTSQIMARKKRRGIIEKRRDRINNSLSELRRL VPTAFEKQGSAKLEKAEILQMTVDHLKMLQATGGKGYFDAHALAMDFMSIGFRECLTEVARYLSS VEGLDSSDPLRVRLVSHLSTCATQREAAAMTSSMAHHHHPLHPHHWAAAFHHLPAALLQPNGLHA SESTPCRLSTTSEVPPAHGSALLTATFAHADSALRMPSTGSVAPCVPPLSTSLLSLSATVHAAAA AATAAAHSFPLSFAGAFPMLPPNAAAAVAAATAISPPLSVSATSSPQQTSSGTNNKPYRPWGTEV GAF

## SEQUENCE ID NO 23

CGGCTGTCCTAAAGTGGATAAGGGAGAATATCTCTGAGTGGAGGAACTGCACTATTGTCTCACCT GATGCTGGTGGAGCTAAGAGAGTGACCTCCATTGCAGACAGGCTGAATGTGGACTTTGCCTTGAT TCACAAAGAACGGAAGAAGGCCAATGAAGTGGACCGCATGGTGCTTGTGGGAGATGTGAAGGATC GGGTGGCCATCCTTGTGGATGACATGGCTGACACTTGTGGCACAATCTGCCATGCAGCTGACAAA CTTCTCTCAGCTGGCGCCCACCAGAGTTTATGCCATCTTGACTCATGGAATCTTCTCCGGTCCTGC TATTTCTCGCATCAACAACGCATGCTTTGAGGCAGTAGTAGTCACCAATACCATACCTCAGGAGG ACAAGATGAAGCATTGCTCCAAAATACAGGTGATTGACATCTCTATGATCCTTGCAGAAGCCATC AGGAGAACTCACAATGGAGAATCCGTTTCTTACCTATTCAGCCATGTCCCTTTATAATAGAGTAA CTTCTGAGGCTTTTTGAGAATAAAATCCACCCCACCCTTGTTTCCCCTTGGTATTTGATGACAAA TTCAGCAGAAGACCCGGCTTGCTCCAGTGTAGCTTTCTACATCCCACATCAGGTATATTAGAGCT TATCCGAACTGGGGAAAGACGGATTGAGATTAACTGCTGGGACCTCCTACCTGCATTATCTCATT CTGGCTTCCTTGATAATTCTGTGGGCCTTGCAGCTTTAACTATAGCTCAGCTGCTGCAAGATTTC AGACTTTTGAGGATGTTGTGGAAGAGGCCAGAAAATGGAAGAGACGCCCCTGTAACGGGAATGCT GGCAAGACGGACGGAAGGAAACGAACGGTGCCTGGTGACCCACGAAGGCTGGACCGATGGAC GATGACGGAAGCCTGAGTCTAGCTACCGGGCAAGCCGGCGCCTGCAGAATGATTGAGGCTCACGA CGTCGCTCCAGAAGCTGAGACCGACAGCGCTGCTCACCGCCAACACGGCTCTGTTCTCTTAACAA CAAGGCGCGTGACTCATAGCCTCATCCGTCTAGCACTACGGTCCTTGAGTACAGGCCCCGCCACG GACTGCCCCGTAGCGGTCTCCCACCTCCCACCTGCGTGGAACACCCGGGTCACAGCAAACGCGC 

## SEQUENCE ID NO 24

PNIKIFSGSSHQDLSQKIADRLGLELGKVVTKKFSNQETCVEIGESVRGEDVYIVQSGCGEINDN LMELLIMINACKIASASRVTAVIPCFPYARQDKKDKSRAPISAKLVANMLSVAGADHIITMDLHA SQIQGFFDIPVDNLYAEPAVLKWIRENISEWRNCTIVSPDAGGAKRVTSIADRLNVDFALIHKER KKANEVDRMVLVGDVKDRVAILVDDMADTCGTICHAADKLLSAGATRVYAILTHGIFSGPAISRI NNACFEAVVVTNTIPQEDKMKHCSKIQVIDISMILAEAIRRTHNGESVSYLFSHVPL

## SEQUENCE ID NO 25

## SEQUENCE ID NO 26

MANIAVQRIKREFKEVLKSEETSKNQIKVDLVDENFTELRGEIAGPPDTPYEGGRYQLEIKIPET YPFNPPKVRFITKIWHPNISSVTGAICLDILKDQWAAAMTLRTVLLSLQALLAAAEPDDPQDAVV ANQYKQNPEMFKQTARLWAHVYAGAPVSSPEYTKKIENLCAMGFDRNAVIVALSSKSWDVETATE LLLSN

## SEQUENCE ID NO 27

ATTTTGATGTTCTCATGAACACCTAGAAGGTGCCCTAGACAGGTTTGCACAGTTTTTTCTGTGC CCCTTGTTCGATGAAAGTTGCAAAGACAGAGAGGTGAATGCAGTTGATTCAGAACATGAGAAGAA TGTGATGAATGATGCCTGGAGACTCTTTCAATTGGAAAAAGCTACAGGGAATCCTAAACACCCCT TCAGTAAATTTGGGACAGGTAACAAATATACTCTGGAGACTAGACCAAACCAAGAAGGCATTGAT GTAAGACAAGAGCTACTGAAATTCCATTCTGCTTACTATTCATCCAACTTAATGGCTGTTTGTGT TTTAGGTCGAGAATCTTTAGATGACTTGACTAATCTGGTGGTAAAGTTATTTTCTGAAGTAGAGA ACAAAAATGTTCCATTGCCAGAATTTCCTGAACACCCTTTCCAAGAAGAACATCTTAAACAACTT TACAAAATAGTACCCATTAAAGATATTAGGAATCTCTATGTGACATTTCCCATACCTGACCTTCA GAAATACTACAAATCAAATCCTGGTCATTATCTTGGTCATCTCATTGGGCATGAAGGTCCTGGAA AGATATAATTTTGCACATGTTTCAATACATTCAGAAGTTACGTGCAGAAGGACCTCAAGAATGGG TTTTCCAAGAGTGCAAGGACTTGAATGCTGTTGCTTTTAGGTTTAAAGACAAAGAGAGGCCACGG GGCTATACATCTAAGATTGCAGGAATATTGCATTATTATCCCCTAGAAGAGGTGCTCACAGCGGA ATATTTACTGGAAGAATTTAGACCTGACTTAATAGAGATGGTTCTCGATAAACTCAGACCAGAAA ATGTCCGGGTTGCCATAGTTTCTAAATCTTTTGAAGGAAAAACTGATCGCACAGAAGAGTGGTAT GGAACCCAGTACAAACAAGAAGCTATACCGGATGAAGTCATCAAGAAATGGCAAAATGCTGACCT GAATGGGAAATTTAAACTTCCTACAAAGAATGAATTTATTCCTACGAATTTTGAGATTTTACCGT TAGAAAAAGAGGCGACACCATACCCTGCTCTTATTAAGGATACAGCTATGAGCAAACTTTGGTTC AAACAAGATGATAAGTTTTTTTTGCCGAAGGCTTGTCTCAACTTTGAATTTTTCAGCCCATTTGC ACGAGTATGCATATGCAGCAGAGCTAGCAGGCTTGAGCTATGATCTCCAAAATACCATCTATGGG ATGTATCTTTCAGTGAAAGGTTACAATGACAAGCAGCCAATTTTACTAAAGAAGATTATTGAGAA AATGGCTACCTTTGAGATTGATGAAAAAAGATTTGAAATTATCAAAGAAGCATATATGCGATCTC TTAACAATTTCCGGGCTGAACAGCCTCACCAGCATGCCATGTACTACCTCCGCTTGCTGATGACT GAAGTGGCCTGGACTAAAGATGAGTTAAAAGAAGCTCTGGATGATGTAACCCTTCCTCGCCTTAA GGCCTTCATACCTCAGCTCCTGTCACGGCTGCACATTGAAGCCCCTTCTCCATGGAAACATAACAA AGCAGGCTGCATTAGGAATTATGCAGATGGTTGAAGACACCCTCATTGAACATGCTCATACCAAA CCTCTCCTTCCAAGTCAGCTGGTTCGGTATAGAGAAGTTCAGCTCCCTGACAGAGGATGGTTTGT TTATCAGCAGAGAAATGAAGTTCACAATAACTGTGGCATCGAGATATACTACCAAACAGACATGC AAAGCACCTCAGAGAATATGTTTCTGGAGCTCTTCTGTCAGATTATCTCGGAACCTTGCTTCAAC ACCCTGCGCACCAAGGAGCAGTTGGGCTATATCGTCTTCAGCGGGCCACGTCGAGCTAATGGCAT ACAGGGCTTGAGATTCATCATCCAGTCAGAAAAGCCACCTCACTACCTAGAAAGCAGAGTGGAAG CTTTCTTAATTACCATGGAAAAGTCCATAGAGGGCCATGACAAGAGGGCCTTCCAAAAACACATT CAGGCATTAGCAATTCGTCGACTAGACAAACCAAAGAAGCTATCTGCTGAGTGTGCTAAATACTG

GGGAGAAATCATCTCCCAGCAATATAATTTTGACAGAGATAACACTGAGGTTGCATATTTAAAGA CACTTACCAAGGAAGATATCATCAAATTCTACAAGGAAATGTTGGCAGTAGATGCTCCAAGGAGA CATAAGGTATCCGTCCATGTTCTTGCCAGGGAAATGGATTCTTGTCCTGTTGTTGGAGAGTTCCC ATGTCAAAATGACATAAATTTGTCACAAGCACCAGCCTTGCCACAACCTGAAGTGATTCAGAACA TGACCGAATTCAAGCGTGGTCTGCCACTGTTTCCCCTTGTGAAACCACATATTAACTTCATGGCT GCAAAACTCTGAAGATTCCCCATGCATGGGAAAGTGCAAGTGGATGCATTCCTGAGTCTTCCAGA ATTGTCAAATGTCATTATGTAGAAATATTATAAATCCAAAGTAAATTACAAAATCTTATAGATGT AGAATATTTTTTAAATACATGCCTCTTAAATATTTTAAAATTTTTCTTTTGATTACTGAGAGAAA TTTCCCCAATATAACAATGCTTAAAATGAATGATATTCCTATAGAATCTTCCCTATTCTGT AAAATAGTCACTTGTCCGAAGAAAGTTAAAAGTTAGCTCTTTTCTAAAAGCCTCCTAGCTTGACA TAGAAGGCTTCACAACATTTAGAAAGGTAATAACTTTTTAAAAATTGATCCTCAAATTTGCTTTC TACTTGATGGTTTCATGTAAATCAGTGGAAAACATTACATTTGGCAGATGATAAAGCAATGTCAT CTTTTATTAGTGAAATGCTGGTTATATAAGGCATGGTTTTAAATCTTTTTATAAAATTTGAACATG TTTTTTATGCCAACTCGTAAAATGCTAGAAAACCCTACTTATTTACAATGCTAGAAATACAGACT TGAATTATATTGACCTACTTCATAGTTGGTTTGCAGTGTTCCATGAGTTTTACTTTTCCTCA TCAACATATTGCTTTAACACAACATATTTATTTAACACGTACAAATAGGGTCAACTTCAGATCCT ACTGAGTGTGACATGCTTTTCCAACATCAGCTTTTTGTAACCACCTGTATAACTTTTTATTAC AGTGAAATTGCAGTCAGTATGTGAACCAAAATATCTTGCCCCTTTATGAATTTAAAAGGCAGCCA ATACAAAGCCACCTTTTTGGAAATATAAAAAGTAAAGCCTTGCATTCTTATATAGCAGGTCTTCA TAAAACTCTAAAATCCCTTGTTGCTACCAGTCTAATCTTGCCTTAAATGTTAAGTTATTTTTTGA ATATATAAATATAAACATATAAACACAGATGATGACTGGAGTAGACTTTTAAAAAAATATTTTTT TCATGAGATACTATTTTAGGTGAAATTGTTACTGTAGATTTAACAGCTGTTTTTGAAATATTTACT GTTATTAAAACTTGCTTCAAGAGAAATTGTGAATATTTTCCATATACAAGCACTAGTAACAGTA AGTGGCCCTGTCATCCACTAACTCAGGCAAAGTAAAGAATGGCATTTTTGAAGGACATTTTACCT CCCCATATGATTTGATTGGCTAGGACTTTCTTCTGTAAAGTCATACCTTTTCACATCTTAAGTTT TTACATTTGCCATTTTCCAAATCTCAATTTTGGGCAAGAACGATATAGTCACAACTATGGGGCTG CTTTCAAAAGCGGGGCTCCATTTCTACTGTCAGATCAATGTGGTGCTGTAACCATCTTTTTATCC CTACCTTCAAGAACCTCCTTATATGAAGCCTGTCTTTATCCATCAGAAGGTGTGTGAAATCATCA CTTCCTTCTGGTTTTATGTATTTGTAGACTATGCAGCTTTTCATTAAACTGCAAGTATATACAAG CCTTTTATGTGGAAAATTATGTGCTATTGAGTAACTTTTAGCTCTTTTTTAAAAAATGGGTGAAA TTTAAGTGTCTTTTTTATGAGAATGACACATGAAGAGATCTGAGAGCAATCTCATGTAGTCTTCC ATGAACCTGCAATTGTTTGGTATGCGTCAGCATTTTCCAATTTCCAGGTTGGATCTAGAGCTGCT

GTTGATCACTCAGGCATACTAATGGATTCATTTAGATGGGTCCAAGCTGCAGTCCATGAGCAATA
ACAGACTACCCCAGATACTGCAGTTTACGCAGTGCTTAGTAAATGAGATTTGTGGAACTAAGTTA
TTAGTTACCTGAGGCTTCTTAAGAAAGTCTTCTTTTTTGACCAGTTGATGTGAAAGAGGGAGCAT
GTGACACAGCCAGTATGGTGGAGTGCTAGGGTTATCCTGTTTACAATAAATCGCCTGAATTTCA

#### SEQUENCE ID NO 28

RRAGSKRKQEAFAVIPATALANAVPASVASAPRTAQHLPLSPRRPPAASGAPVWELPGCFSKQRH YFAFPPAVCENSNFSISLTTLAICTFVISHPGGYEVVSHWNFDFHFPDDHCKSFKIYSLGRACWL MPVIPALWEDEAGGSPAVQEFRTSLTNKLLHVASESYAVKRFKQFFCLSLPSSWDYSFQKKTYSK MNNPAIKRIGNHITKSPEDKREYRGLELANGIKVLLISDPTTDKSSAALDVHIGSLSDPPNIAGL SHFCEHMLFLGTKKYPKENEYSQFLSEHAGSSNAFTSGEHTNYYFDVSHEHLEGALDRFAQFFLC PLFDESCKDREVNAVDSEHEKNVMNDAWRLFQLEKATGNPKHPFSKFGTGNKYTLETRPNQEGID VRQELLKFHSAYYSSNLMAVCVLGRESLDDLTNLVVKLFSEVENKNVPLPEFPEHPFQEEHLKQL YKIVPIKDIRNLYVTFPIPDLQKYYKSNPGHYLGHLIGHEGPGSLLSELKSKGWVNTLVGGQKEG ARGFMFFIINVDLTEEGLLHVEDIILHMFQYIQKLRAEGPQEWVFQECKDLNAVAFRFKDKERPR GYTSKIAGILHYYPLEEVLTAEYLLEEFRPDLIEMVLDKLRPENVRVAIVSKSFEGKTDRTEEWY GTOYKQEAIPDEVIKKWQNADLNGKFKLPTKNEFIPTNFEILPLEKEATPYPALIKDTAMSKLWF KQDDKFFLPKACLNFEFFSPFAYVDPLHCNMAYLYLELLKDSLNEYAYAAELAGLSYDLONTIYG MYLSVKGYNDKQPILLKKIIEKMATFEIDEKRFEIIKEAYMRSLNNFRAEQPHQHAMYYLRLLMT EVAWTKDELKEALDDVTLPRLKAFIPQLLSRLHIEALLHGNITKQAALGIMQMVEDTLIEHAHTK PLLPSQLVRYREVQLPDRGWFVYQQRNEVHNNCGIEIYYOTDMOSTSENMFLELFCOIISEPCFN TLRTKEQLGYIVFSGPRRANGIQGLRFIIQSEKPPHYLESRVEAFLITMEKSIEDMTEEAFQKHI QALAIRRLDKPKKLSAECAKYWGEIISQQYNFDRDNTEVAYLKTLTKEDIIKFYKEMLAVDAPRR HKVSVHVLAREMDSCPVVGEFPCQNDINLSQAPALPQPEVIQNMTEFKRGLPLFPLVKPHINFMA AKL

# SEQUENCE ID NO 29

CACTGTGGCCATCGTGCTGGAGAACAGGAGCAGCAGCATCCTCAAGGGCATGGAGCTCAGCGTGC TGGACTCACTCAATGCCAGGATGGCCCGGCCGCAGGGCTCCTCCGTCCACGATGGCGTCCCCGTG CCTTTCCAGCTGCCCCCAGGCGTCTCCAACGAAGCCCAGTATGTGTTCACCATCCAGAGCATCGT CATGGCGCAGAAGCTCAAGGGGACCCTGTCCTTCATTGCCAAGAATGACGAGGGTGCGACCCACG AGAAGCTGGACTTCAGGCTGCAGCTCCTACTTGATCACCACTCCCTGCTACAGT TCGGATGTCCTTCCAGAATCTTCTGGCGAAGATCTGTTTTCACCACCATTTTTCCGTTGTGGAGC AAAAAGGGTGAGAACTCTGTCTCAGTCGACGGGAAGTGCAGTGACTCCACGCTACTGAGCAACTT GCGGAGCACGTACCCAGGGACCGCAGCCCTGACGTGTCTCGCCTCTCCTCAGTCGTGTACTGT ACCCAAGCCTGAGTGTTAATTTAACTCTATGTTGTCCGCCGTGTAGACATCCGAGGTCATTTGTT GCGTTGAATTATCTGACCATCCTTTTTTACTGTGACTCTTCCCATTCTCTTTGGCAAGAAGTCCC CTTCTCGCCCCAAACCAGCAAGGGACTCCCCCACCTGGGTCTGTGCCCTGCCCCGCGCTGGGGG AGGGCCGCTGTCGCCAAGGTTTTCTCTCCCAGAACCCCGTGGGCCGCCGCGATGGCCCTCAAGAT GGTGAAGGGCAGCATCGACCATGTTCGACAAGAATCTGCAGGACTTGGTCCGCGGCATCCGTA ACCACAAGGAGGACGAGGCAAAATACATATCTCAGTGCATTGATGAGATCAAGCAGGAGCTGAAG CAGGACAACATCGCGGTGAAGGCGAACGCGGTCTGCAAGCTGACGTATTTACAGATGTTGGGATA CGACATCAGCTGGGCCGCCTTCAACATCATAGAAGTGATGAGTGCCTCCAAGTTCACCTTCAAGC GAATTGGCTACCTCGCTGCTTCCCAGAGCTTTCACGAAGGCACCGACGTCATCATGCTGACCACC AATCAGATCCGTAAGGACTTGAGCAGCCCCAGCCAGTACGACAGGTGTTGCACTGACGGGTCT GTCCTGCTTCGTCACCCCAGACCTTGCCAGAGACCTGGCAAATGACATCATGACACTGATGTCAC ACACCAAGCCCTACATCAGGAAGAAGGCTGTGCTGATCATGTACAAGGTGTTCCTGAAGTACCCC GAGTCGCTGCCCTGCCTTTCCCCGGCTGAAGGAGAAGCTGGAGGACCCCGACCCCGGGGTTCA GTCGGCTGCCGTCAATGTCATCTGCGAGCTGGCCAGACGCAACCCTAAGAACTACCTGTCCCTGG CCCCGCTCTTTTTCAAGCTGATGACGTCCTCCACCAACAACTGGGTCCTCATCAAGATCATCAAG CTGTTCGGTGCTCTTACTCCTTTGGAACCGCGGCTGGGCAAGAAGCTGATCGAGCCCCTCACCAA TCTCATCCACAGCACGTCTGCCATGTCTCTCTCTATGAATGTGTGAACACCGTGATTGCAGTGC TCATCTCGCTGTCCTCCGGCATGCCCAACCACAGCGCCAGCATCCAGCTTTGTGTTCAGAAATTA AGGATATTGATCGAGGACTCCGATCAGAACTTGAAGTACCTGGGGCTGCTGGCAATGTCCAAGAT CCTGAAGACCCACCCCAAGTCCGTGCAGTCCCACAAGGACCTCATCCTGCAGTGCCTGGACGACA AGGACGAGTCCATCCGGCTGCGGGCCCTGGACCTGCTCTATGGGATGGTGTCCAAGAAGAACCTG ATGGAGATCGTGAAGAAGCTGATGACCCACGTAGACAAGGCAGAGGGTACCACCTACCGTGACGA GCTGCTCACCAAGATCATTGACATCTGCAGCCAGTCCAACTACCAGTACATCACCAACTTCGAGT

GGTACATCAGCATCCTGGTGGAGCTGACCCGGCTGGAGGGCACACGGCCACCTCATCGCC GCCCAAATGCTGGACGTGGCCATCCGCGTGAAGGCCATCCGCAAGTTCGCCGTGTCCCAGATGTC TGCGCTGCTTGACAGTGCACACCTGCTGGCCAGCAGCACCCAGCGGAACGGGATCTGTGAGGTGC GAGGCCATGCTGCGGCCCAGAGTCACCACGCTGCCAGGCCACATCCAGGCCGTGTATGTGCAGAA AGGCCGTCACCCAGCTCATGGTGGACCGGCTGCCCCAGTTTGTGCAGAGCGCAGACCTGGAGGTG CAGGAGCGGCGTCCTGCATCCTGCAGCTGGTCAAGCACATCCAGAAGCTTCAGGCCAAGGACGT GCCTGTGGCAGAGGGGCTCAGCGCTCTCTTTGCTGGGGAGCTGAACCCAGTGGCCCCCAAGGCCC AGAAGAAGGTTCCAGTCCCCGAAGGCCTGGACCTGGACGCCTGGATCAATGAGCCACTCTCGGAC AGCGAGTCAGAGGACGAGGGCCCAGGGCCGTCTTCCACGAGGAGGAGCAGCGGCGTCCCAAGCA CCGGCCGTCGGAGGCGGACGAGGAGGAGGCTCGCCCGGAGGGCCCGGAAGCAGGAGCAGG CCAACAACCCCTTCTACATCAAGAGCTCGCCATCGCCACAGAAGCGGTACCAGGACACCCCGGGC GTGGAGCACATTCCCGTGGTGCAGATTGACCTCTCCGTCCCCTTGAAGGTTCCAGGGCTGCCTAT GTCAGATCAGTATGTGAAGCTGGAGGAGGAGGGCGCGCCGCCAGAAGCTGGAGAAGGACAAGA GGAGGAAAAAGAGGAGAAGGAGAAGAAGGGCAAGCCCCACAGCTCGCTGCCCACGGAG AGCGACGAGGACATCGCCCTGCCCAGCAGGTGGACATCGTCACAGAGGAGATGCCTGAGAATGC TCTGCCCAGCGACGACGACCAACGACCCCTACAGGGCTCTGGATATTGACCTGG ATAAGCCCTTAGCCGACAGCGAGAAACTGCCTATTCAGAAACACAGAAACACCGAGACCTCAAAA CTTCTGGCTGTCTACCACCCTGGGATTCCTGAGGCCCGATGGACAAGGGACCTCAAAGATGGAAA AGAGATCGACGCCCTCGACAAGAGCACTGAGAGAGAGCACGGCGTAAGGAACGAAGGCTCTCACG GCAGCAGGAGACCGCTGAATGACCTGGACGTCTCTGAACTTGGGCAACACCGGCGCTAGCGACAA TGACGACATCATAGAGTGGAAACCCAAGCCACACAACAAGAACCGAACGGATGGGGGACACACA CGGGATCGGGGAATATGCCTACACGGCAGCCCTCATGCCGCAGACGCGAGCCAACCACAA GAAAGGGAAAGACAAAAACGAGGGCCAACTAGAAACGTCAGGCACAAGCGCCCCGGAACAGAG GAGACCACACACACATGCCCGAGATAGGCGAGAATAGAAAGCACCAAGATCCCGAGAAAACGC AAGCCAGTCGGAGGAGGAGGGCAGCACGACAAGGCAGACGCGGGGCAACTCACACGTTACATC ACGCAGCAACACCAGGGACAGTAGCCGCCGAGTACGCCATAAGAGTGGAGGCAGGACAGAGATAT AGTCGAGAAACCAGCGAGGGCGA

SEQUENCE ID NO 30

HEGKVEKNFEERDKEKKKEKEKKAEDLDFWLSTTPPPAPAPAPAPVPSTGELSVNTVTTPKDECF DAKTEAQGEEDDAEGQDQDKKSPKPKKKKHRKEKEERTKGKKKSKKQPPGQEEEQLPPESSYSLL AENSYVKMTCDIRGSLQEDSQVTVAIVLENRSSSILKGMELSVLDSLNARMARPQGSSVHDGVPV PFQLPPGVSNEAQYVFTIQSIVMAQKLKGTLSFIAKNDEGATHEKLDFRLHFSCSSYLITTPCYS DAFAKLLESGDLSMSSIKVDGIRMSFQNLLAKICFHHHFSVVERVDSCASMYSRSIQGHHVCLLV KKGENSVSVDGKCSDSTLLSNLLEEMKATLAKCVRAACEPRTTPRSTYPGTAALTCLASPOSCVL YPSLSVNLTLCCPPCRHPRSFVALNYLTILFYCDSSHSLWQEVPFSPPNQQGTPPPGSVPCPALG AESLNVASGAPVLTVASGGGEGRAAVAKVFSPRTPWAAAMALKMVKGSIDRMFDKNLQDLVRGIR NHKEDEAKYISQCIDEIKQELKQDNIAVKANAVCKLTYLQMLGYDISWAAFNIIEVMSASKFTFK RIGYLAASQSFHEGTDVIMLTTNQIRKDLSSPSQYDTGVALTGLSCFVTPDLARDLANDIMTLMS HTKPYIRKKAVLIMYKVFLKYPESLRPAFPRLKEKLEDPDPGVQSAAVNVICELARRNPKNYLSL APLFFKLMTSSTNNWVLIKIIKLFGALTPLEPRLGKKLIEPLTNLIHSTSAMSLLYECVNTVTAV LISLSSGMPNHSASIQLCVQKLRILIEDSDQNLKYLGLLAMSKILKTHPKSVQSHKDLILQCLDD KDESIRLRALDLLYGMVSKKNLMEIVKKLMTHVDKAEGTTYRDELLTKIIDICSQSNYQYITNFE WYISILVELTRLEGTRHGHLIAAQMLDVAIRVKAIRKFAVSQMSALLDSAHLLASSTORNGICEV LYAAAWICGEFSEHLQEPHHTLEAMLRPRVTTLPGHIQAVYVONVVKLYASILOOKEOAGEAEGA QAVTQLMVDRLPQFVQSADLEVQERASCILQLVKHIQKLQAKDVPVAEEVSALFAGELNPVAPKA QKKVPVPEGLDLDAWINEPLSDSESEDERPRAVFHEEEQRRPKHRPSEADEEELARRREARKOEO ANNPFYIKSSPSPQKRYQDTPGVEHIPVVQIDLSVPLKVPGLPMSDQYVKLEEERRHRQKLEKDK RRKKRKEKEKKGKRRHSSLPTESDEDIAPAQQVDIVTEEMPENALPSDEDDKDPNDPYRALDIDL DKPLADSEKLPIQKHRNTETSKSPEKDVPMVEKKSKKPKKKEKKHKEKERDKEKKKEKEKKLRTW TSGFYHPGIPEARWTRDLKDGKEIDALDKSTEREHGVRNEGSHGSRRPLNDLDVSELGQHRRYDN DDIIEWKPKPHNKEPNGWGTHTEIGEYAYTAALMPQTRAANHSKKGKDKNERPTRNVRHKRARNR GDHTHTVPEIGENRKHQDPEKTQASRRKEGSTTRQTRGQLTRYIIPKRDKGGASSMIEHERPHEE YAATPGTVAAEYAIRVEAGQRYSRETSEG

# SEQUENCE ID NO 31

AATAACACTGCTGCAGATGACAAGCAGCCTTATGAAAAGAAGGCTGCGAAGCTGAAGGAAAAATA CGAAAAGGATATTGCTGCATATCGAGCTAAAGGAAAGCCTGATGCAGCAAAAAAAGGGAGTTGTCA GAAAAAATTGAAATGTAAGGCTGTGTAAGATTTGTTTTTAAACTGTACAGTGTCTTTTTTTGTA TAGTTAACACACTACCGAATGTGTCTTTAGATAGCCCTGTCCTGGTGGTATTTTCAATAGCCACT AACCTTGCCTGGTACAGTATGGGGGTTGTAAATTGGCATGGAAATTTAAAGCAGGTTCTTGTTGG TGCACAGCACAAATTAGTTATATATGGGGATGGTAGTTTTTTCATCTTCAGTTGTCTCTGATGCA GTTGTCCTTTTCATAGGTCTGAAATTTTTCTTCTTGAGGGGAAGCTAGTCTTTTGCTTTTGCCCA TTTTGAATCACATGAATTATTACAGTGTTTATCCTTTCATATAGTTAGCTAATAAAAAGCTTTTG TCTACACACCCTGCATATCATAATGGGGGTAAAGTTAAGTTGAGATAGTTTTCATCCATAACTGA ACATCCAAAATCTTGATCAGTTAAGAAATTTCACATAGCCCACTTACATTTACAAACTGAAGAGT AATCAATCTACTCAAAGCATGGGATTATTAGAATCAAACATTTTGAAAGTCTGTCCTTGAAGGAC TAATAGAAAAGTATGTTCTAACCTTTACATGAGGACTCTATTCTTTAACTCCCATTACCATGTAA TGGCAGTTATATTTTGCAGTTCCCACATTAAAGAAGACCTGAGAATGTATCCCCAAAAGCGTGAG CTTAAAATACAAGACTGCCATATTAAATTTTTTTTTTGTTGACATTAGTCTCAGTGAAGACTATGAAAA TGCTGGCTATAGATGTCTTTTCCCATTTATCTAAATATGGACTGCTCAGGAAACGAGACTTTCCA TATTTTCCTATATTACGGTTTGCCCCTTTATAAATCCAAGTAGATAGGAAGAAAAAAACT  ${\tt TTAGTCATGTTTATCTGCTTAGGGAGTTTAGGGAACAATTTGGCCAATTTTGTGGTTTTCGAGATTA}$ TCGTTTTCTTAAAGTGCCAGTATTTTAAAATAGCGTTCTTGTAATTTTACACGCTTTTGTGATGG AGTGCTGTTTTGTTATATATTTAGACTTGGATTCTTTCCATTTGCATTTGTTATGTAATTTCA GGAGGAATACTGAACATCTGAGTCCTGGATGATACTAATAAACTAATAATTGCAGAGGTTTTAAA TACTAGTTAAATGGCTTTCACTTAAGAACTTAAGATTTTGTTACATATTTTTAAATCTTGTTTCT AATAATACCTCTTAGCAGTACCTTTTAAATAAGTATAAGGGATGGCAAAGTTTTTCCCTTTAAAA ATACTCACTTTATGCTTATAAATAGGTTAATGGGCTGATAAAAGGTTTTGTCAAACATTGCAAGT ATTCGGTGCTATATATAAAGGAGGAAAAACTAGTTTTACTTTCAGAATGATTTAAACAAGATTTT TAAAAACAAGATACATGCAAGCGAACAGCAGGGTTAGTGATAGGCTGCAATTGTGTCGAACATCA GATTTTTTGTTAAGAGGAGCAAATGACTCAATCTGATTTAGATGGAAGTTTCTACTGTATAGAAA TCACCATTAATCACCAACATTAATAATTCTGATCCATTTAAAATGAATTCTGGCTCAAGGAGAAT TTGTAACTTTAGTAGGTACGTCATGACAACTACCATTTTTTTAAGATGTTGAGAATGGGAACAGT

TTTTTTAGGGTTTATTCTTGACCACAGATCTTAAGAAAATGGACAAAACCCCTCTTCAATCTGAA GATTAGTATGGTTTTGGTGTTCTAACAGTATCCCCTAGAAGTTGGATGTCTAAAACTCAAGTAAAT GTATAGAAACTATTTTAATGCCAAGATAGTTACAGTGCTGTGGGGTTTAAAGACTTTGTTGACAT CAAGAAAAGACTAAATCTATAATTAATTGGGCCAACTTTTAAAATGAAGATGCTTTTTAAAACTA ATGAACTAAGATGTATAAATCTTAGTTTTTTTTTTTAAAGATAGGCATATGGCATATTGATT AACGAGTCAAATTTCCTAACTTTGCTGTGCAAAGGTTGAGAGCTATTGCTGATTAGTTACCACAG AATCTGAAAAATGAAATTTGTGTGTCCTGTGTACCCGAGGGGTAATGATTAAATGATAAAGATAA GAAAAGCGCCCATGTAACACAAACTGCCATTCAACAGGTATTTCCCTTACTACCTAAGGAATTGT AACCATTGCTCAGACATTGTAGGATTTAACTATGTTGAAAACTACAGGAGAGGCCGGGCGCAGTG GCTCACGCCTGTAATCCCAGCACTTTGGGAGGCCAAGGCGGCAGATCACGAGGTCAGGAGATTG AGACCATCCTGGCTAACGTGGTGAAACCCCGCCTCTACTAAAAATACAAAAATTAGCCAAGCGT GGTGCTGGGCGCCTGTAGTCCCAGTAACTCAGGAGGCTGAGGCAGGAGAATGGCGTGAACCCGGG AGGCGGAGGTTGCAGTGAGCCGAGATTGTGCCACTGCACTCCAGCCTGGGTGACAGAGCAAGACT CCATCTC

## SEQUENCE ID NO 32

MGKGDPKKPRGKMSSYAFFVQTCREEHKKKHPDASVNFSEFSKKCSERWKTMSAKEKGKFEDMAK ADKARYEREMKTYIPPKGETKKKFKDPNAPKRPPSAFFLFCSEYRPKIKGEHPGLSIGDVAKKLG EMWNNTAADDKQPYEKKAAKLKEKYEKDIAAYRAKGKPDAAKKGVVKAEKSKKKKEEEEDEEDEE DEEEEEDEEDEDEDEEDDDDE

## SEQUENCE ID NO 33

TCCAGATGTGGAGATGCTGGATCAACCCTTGCCAGCAGAGCAGTGCACACAGGAAGACGTGTCTT CAGAAGATGAAGATGAGGACTGAGGACACAGAAGACTTAGATCACTATGAAATGAAAGAG GAAGAGCCAGCTGAGGGCAAGAATCTGAAGATGATGGCATTGGAAAAGAAACTTGGCCATCCT AGAGAAAATTAAAAAGAACCAGAGGCAAGATTACTTAAATGGTGCAGTGTCTGGCTCGGTGCAGG CCACTGACCGGCTGATGAAGGAGCTCAGGGATATATACCGATCACAGAGTTTCAAAGGCGGAAAC TATGCAGTCGAACTCGTGAATGACAGTCTGTATGATTGGAATGTCAAACTCCTCAAAGTTGACCA GGACAGCGCTTTGCACAACGATCTCCAGATCCTCAAAGAGAAGAAGGAGCCGACTTCATTCTAC TTAACTTTTCCTTTAAAGATAACTTTCCCTTTGACCCACCATTTGTCAGGGTTGTGTCTCCAGTC CTCTCTGGAGGGTATGTTCTGGGCGGAGGGGCCATCTGCATGGAACTTCTCACCAAACAGGGCTG GAGCAGTGCCTACTCCATAGAGTCAGTGATCATGCAGATCAGTGCCACACTGGTGAAGGGGAAAG CACGAGTGCAGTTTGGAGCCAACAAATCTCAATACAGTCTGACAAGAGCACAGCAGTCCTACAAG TCCTTGGTGCAGATCCACGAAAAAAACGGCTGGTACACCCCCAAAAGAAGACGGCTAACCCTG GGCAGAGCACAGCATCGTCGGGACCAGACTCGTCTCAGGCCAGTTGCAGCCTTCTCAGCCAAACG  $\verb|CCGACCAAGGACAAACTCACTACCATGAGAATTGCAGTGATTTGCTTTTTGCCTCCTAGGCATCAC| \\$ CTGTGCCATACCAGTTAAACAGGCTGATTCTGGAAGTTCTGAGGAAAAGCAGCTTTACAACAAAT ACCCAGATGCTGTGGCCACATGGCTAAACCTGACCCATCTCAGAAGCGCGCGG

## SEQUENCE ID NO 34

GGGLSRRWRRRHLGEGGIRKCGPRRRRRRRRRRRRRTGAQAGGPGPPAPERRNGRMQQPQPQGQQQPG
PGQQLGGQGAAPGAGGGPGGGPGPCLRRELKLLESIFHRGHERFRIASACLDELSCEFLLAGA
GGAGAGAAPGPHLPPRGSVPGDPVRIHCNITESYPAVPPIWSVESDDPNLAAVLERLVDIKKGNT
LLLQHLKRIISDLCKLYNLPQHPDVEMLDQPLPAEQCTQEDVSSEDEDEEMPEDTEDLDHYEMKE
EEPAEGKKSEDDGIGKENLAILEKIKKNQRQDYLNGAVSGSVQATDRLMKELRDIYRSQSFKGGN
YAVELVNDSLYDWNVKLLKVDQDSALHNDLQILKEKEGADFILLNFSFKDNFPFDPPFVRVVSPV
LSGGYVLGGGAICMELLTKQGWSSAYSIESVIMQISATLVKGKARVQFGANKSQYSLTRAQQSYK
SLVQIHEKNGWYTPPKEDG

## SEQUENCE ID NO 35

CGGTCTCTTTGCAAATGTCAATGTATTTTTTTCCTTCAATATACTGTATCTATTCCTCTATTATT

AAGTTCTGAGCTTGCTTTACCTTGTCCGCTATTTAAAACATTCTGATTTGAAAGTATCACCAACA
GCTTATGTGATTTTCCAAAATTCTCAAAATACAGTTGTCACCATTAGTCACATGAAGTCTGCTGC
CGCCGCCGCAGCCGCAGCTACTGTGACTTCTCCGATTGTGTGAGCTTTGTTGGAGCCTGCGTACG
TGGATTTATCGCTGCCACGGTCTGCGTAGCTCCAGAGGTTTAACCATAGGATAGAGAAACCAGGA
ATGTAATGAGGAAATCAAAATGGATCCAAGTATGGGTGTGAATTCTGTTACCATTTCTGTTGAGG

GTATGACTTGCAATTCCTGTGTTTGGACCATTGAGCAGCAGATTGGAAAAGTGAATGGTGTGCAT AAAGACCCTACAGGAAGCTATTGATGACATGGGCTTTGATGCTGTTATCCATAATCCTGACCCTC TCCCTGTTTTAACTGACACCTTGTTTCTGACTGTTACGGCGTCACTGACTTTGCCATGGGACCAT TGTAGCAGTGACAATAATCCCTTCTATAGTGAATGCCAATCAGATAAAAGAGCTGGTTCCAGAAC TCAGTTTAGATACTGGGACACTGGAGAAAAAGTCAGGAGCTTGTGAAGATCATAGTATGGCTCAA GCTGGTGAAGTCGTGCTGAAGATGAAAGTGGAAGGGATGACCTGCCATTCATGTACTAGCACTAT TGAAGGAAAAATTGGGAAACTGCAAGGTGTTCAGCGAATTAAAGTCTCCCTGGACAATCAAGAAG CTACTATTGTTTATCAACCTCATCTTATCTCAGTAGAGGAAATGAAAAAGCAGATTGAAGCTATG GGCTTTCCAGCATTTGTCAAAAAGCAGCCCAAGTACCTCAAATTGGGAGCTATTGATGTAGAACG TCTAAAGAACACCAGTTAAATCCTCAGAAGGGTCACAGCAAAGGAGTCCATCATATACCAATG ATTCAACAGCCACTTTCATCATTGATGGCATGCATTGTAAATCATGTGTGTCAAATATTGAAAGT ACTTTATCTGCACTCCAATATGTAAGCAGCATAGTAGTTTCTTTAGAGAATAGGTCTGCCATTGT GAAGTATAATGCAAGCTCAGTCACTCCAGAATCCCTGAGAAAAGCAATAGTGGCTGTATCACCGG CTTCAGAAGATTCCTTTGAATGTAGCTAGCCAGCCTCTGACACAAGAAACTGTGATAAACATTGA TGGCATGACTTGTAATTCCTGTGTGCAGTCTATTGAGGGTGTCATATCAAAAAAGCCAGGTGTAA AATCCATACGAGTCTCCCTTGCAAATAGCAATGGGACTGTTGAGTATGATCCTCTACTAACCTCT CCAGAAACGTTGAGAGGAGCAATAGAAGACATGGGATTTGATGCTACCTTGTCAGACACGAATGA GCCGTTGGTAGTAATAGCTCAGCCTTCATCGGAAATGCCGCTTCTGACTTCAACTAATGAATTTT CAGGTCACTGGCATGACTTGCGCTTCCTGTGTAGCAAACATTGAACGGAATTTAAGGCGGGAAGA AGGAATATATTCTATACTTGTGGCCCTGATGGCTGGCAAGGCAGAAGTAAGGTATAATCCTGCTG TTATACAACCCCCAATGATAGCAGAGTTCATCCGAGAACTTGGATTTGGAGCCACTGTGATAGAA AATGCTGATGAAGGAGATGGTGTTTTTGGAACTTGTTGTGAGGGGAATGACGTGTGCCTCCTGCGT ACATAAAATAGAGTCTAGTCTCACAAAACACAGAGGGATCCTATACTGCTCCGTGGCCTGGCAA CCAACAAAGCACATATTAAATATGACCCAGAAATTATTGGTCCTAGAGATATTATCCATACAATT GAAAGCTTAGGTTTTGAAGCTTCTTTGGTCAAGAAGGATCGGTCAGCAAGTCACTTAGATCATAA ACGAGAAATAAGACAATGGAGACGGTCTTTTCTTGTGAGTCTGTTTTTCTGTATTCCTGTAATGG GGCTGATGACATATATGATGGTTATGGACCACCACTTTGCAACTCTTCACCATAATCAAAACATG AGTAAAGAAGAATGATCAACCTTCATTCTTCTATGTTCCTGGAGCGCCAGATTCTTCCAGGATT GTCTGTTATGAATTTGCTGTCCTTTTTATTGTGTGTACCTGTACAGTTTTTCGGAGGCTGGTACT TCTACATTCAGGCTTATAAAGCACTGAAGCATAAGACAGCAAATATGGACGTACTGATTGTGCTG GCAACCACCATTGCATTTGCCTACTCTTTGATTATTCTTCTAGTTGCAATGTATGAGAGAGCCAA

AGTGAACCCTATTACTTTCTTTGACACACCCCCTATGCTGTTTTGTGTTTATTGCACTAGGCCGAT GGCTGGAACATATAGCAAAGGCCAAAACATCAGAGGCTCTTGCAAAGTTAATTTCACTACAAGCT ACAGAAGCAACTATTGTAACTCTTGATTCTGATAATATCCTCCTCAGTGAAGAACAAGTGGATGT GGAACTTGTACAACGTGGAGATATCATTAAAGTAGTTCCAGGAGGCAAATTTCCAGTGGATGGTC GTGTTATTGAAGGACATTCTATGGTAGATGAGTCCCTCATCACAGGGGAGGCAATGCCTGTGGCT AAGAAACCTGGCAGCACAGTGATTGCTGGTTCCATTAACCAGAACGGGTCACTGCTTATCTGCGC AACACATGTTGGAGCAGACACACCCTTTCTCAAATTGTCAAACTTGTGGAAGAGGCACAAACAT CAAAGGCTCCTATCCAGCAGTTTGCAGACAAACTCAGTGGCTATTTTGTTCCTTTTATTGTTTTT GTTTCCATTGCCACCCTCTTGGTATGGATTGTAATTGGATTTCTGAATTTTGAAATTGTGGAAAC CTACTTTCCTGGCTACAATAGAAGTATCTCCCGAACAGAAACGATAATACGATTTGCTTTCCAAG CCTCTATCACAGTTCTGTGTATTGCATGTCCCTGTTCACTGGGACTGGCCACTCCAACTGCTGTG ATGGTGGGTACAGGAGTAGGTGCTCAAAATGGCATACTAATAAAAGGTGGAGAGCCATTGGAGAT GGCTCATAAGGTAAAGGTAGTGGTATTTGATAAGACTGGAACCATTACTCACGGAACCCCAGTGG TGAATCAAGTAAAGGTTCTAACTGAAAGTAACAGAATATCACACCATAAAATCTTGGCCATTGTG GGAACTGCTGAAAGTAACAGTGAACACCCTCTAGGAACAGCCATAACCAAATATTGCAAACAGGA GCTGGACACTGAAACCTTGGGTACCTGCATAGATTTCCAGGTTGTGCCAGGCTGTGGTATTAGCT GTAAAGTCACCAATATTGAAGGCTTGCTACATAAGAATAACTGGAATATAGAGGACAATAATATT AAAAATGCATCCCTGGTTCAAATTGATGCCAGTAATGAACAGTCATCAACTTCGTCTTCCATGAT TATTGATGCCCAGATCTCAAATGCTCTTAATGCTCAGCAGTATAAAGTCCTCATTGGTAACCGGG AGTGGATGATTAGAAATGGTCTTGTCATTAATAACGATGTAAATGATTTCATGACTGAACATGAG AGAAAAGGTCGGACTGCTATTAGTAGCAGTTGATGATGAGCTGTGTGGCTTGATAGCCATTGC AGACACAGTGAAGCCTGAAGCAGAACTGGCTATCCATATTCTGAAATCTATGGGCTTAGAAGTAG TTCTGATGACTGGAGACAACAGTAAAACAGCTAGATCTATTGCTTCTCAGGTTGGCATTACTAAG GTGTTTGCTGAAGTTCTACCTTCTCACAAGGTTGCTAAAGTGAAGCAACTTCAAGAGGAGGGGAA ACGGGTAGCAATGGTGGGAGTGGAATCAATGACTCCCCAGCTCTGGCAATGGCTAATGTGGGAA TTGCTATTGGCACAGGCACAGATGTAGCCATTGAAGCAGCTGATGTGGTTTTGATAAGGAATGAT TGTCTTTGCTCTAATTTATAATCTGGTTGGAATTCCCATAGCTGCTGGAGTTTTTATGCCCATTG GTTTGGTTTTGCAGCCCTGGATGGGATCTGCAGCAATGGCTGCTTCATCTGTTTCTGTAGTACTT CCAGATAGGACAGAAGAGTCCTTCAGAAATCAGCGTTCATGTTGGAATAGATGATACCTCAAGGA ATTCTCCTAAACTGGGTTTGCTGGACCGGATTGTTAATTATAGCAGAGCCTCTATAAACTCACTA GGGAGACTTCAGGGAAGATGATGACACTGCATTATAAAAGGCCATGGAGAGTGCTGCCAGTTTAA CTTGTCATGCACTGACACAGCATTCATGATGTTACCTTCACTTTTCAAAATATTGTAGAAGGATT

TTTCTCATGCTCTTATATTAGGGATTCTATTTGAGTTGCGTTTATCTGTTGGCAAAAATATCTTT TTCAAGGCATCAGCTCTGAACCTAGCTTTATTTAAACTGAATTTCCAGTATATTTTTGTTTTCAC TAACAACAGATAAGGTAGAGCAGTGAGGTTTACAACAAGCCCTACAATTAGAGATTGCTGAACTG ATTTGAAGATTTGAGAGCATGAAGATATTCATGCTTTTGAACTCAAAATATTGAAGATACTCTCA AGCCTGTATCCCTGCCCCACTGGGGAGCAATGACTTTCAAAGCACTGTGTATAAAACATCTAGTT CCCCATTCTCCCTGCATCCTTGTCCTTGCAGGTGCTTTTTTAGATGCTCCAATATGTCTTCTTTT GTTATTTTCTTTCGAGCTAACCAGTTTAGGTGGTTTTTCATTGATTAAAAATAACTGACAACTGT TCTAATATTTTGCTCCTTTTTAAATTTTGTAGCTCAAAAGACCTTAAAGGTCTGTAGGGTTCCCT GCCTCCCATCTTTCCACTGTTGTAAAAAGTATATCAAATTATTCCTTCAAGTTTCCTAGCTCTGT GCTCAGTTCAGTTCACTCCTGCCAAGTTGGACTCTAAGTTATTCTTCATGTAGTCTGCTGATCT CAGTCTGGAAACTTAACATTATGAGCCTTTTCTGCTCAAAAAATTTTCAAAGATTAAAACTATTA GTTGTTGTTGAGACAGAGTCTTGTTTTGCAGCCCAGGCTGGAGTGCAGTGGCACCATCTTGG CTCACTGCAACCTCTGCCTACCGGATTCAAGGAATTCTCCCTGCCTCAGCCTCCTGAGTAGCTAG GATTACAGGTGCCTGCCACCACCCGGCTAATTTTCATATTTTTCAGTAGAGACGGGGTTTCGC CATGTTGGCTAGCCTGGTCTTAAACTCCTAACCTCAGGTGATCCACCCGCCTTGGCCTCCCAAAG TGCTGGGATTACAGGTGTGAGCCTCCATGCCCAGCCTAAATTTGTATTTTTTGAATTGAGTATAA AAAAAGACTTTAAAATAATGCTATTACACAAAGCTGCATTTACCAAAAAATACAGTAAAATCATA ATACAGAAACTAAAATTTCCCTAGGTTATGACGCTTTTTAGCTAAATATATACTCTTCTCTAGTT TAAAACATTTGAACTTGCCTAGTTAGTGTGGTTGGCAAATTTAGGAGCTTGTTCCCATTGCCAAA TGGATTTAGAAATTCCCTTGTGAGTGCCTGGTAGCTAATACACTGGTCAGAGATCTGGTACTTGT AAGACTATTTAAATTTCTTTGTTAGTTGCAAGATGGATTTCATATGCAGAATATGTAAATGAAGA GGACTCATAAGTAAATTCCTAACATTTTGTTCCCATTACCAGAAGCAAAGCTGCTGCTAACCCAA CATCTGGCACATAGGATTTGTACTCGGTAAATGTTAGTTCTTTTCTCCCCTTGAGGTCAGTAATA AATACAAAAAATCATTTTTCTAGAGCAGAGTCTTAAAATCAGGTGGGGGTAGGGGATGGAGTTC TTCCTTTCCTACCCCTTTTCTCTTTTATCCTTTCATATACACATGCAAAGTTTACAACCTTAT  ${\tt TCCATGCTGTCTTCAGATTTAGAAAAGATCTAATTTCTGTCTCAGCTGTCTTAAAGAGAGAACT}$ GAAGCTTTTGATGAAGGTGCTATTAATCTAGAAAGGCAAACCCATTTCACTGAAATATCAATGGG TTTGCATATCTAGGCCCTTTTTTTAGACCAATGCCTATGCCATCCTCCATGCTTTCAGTTTGAGT TTTATTATTATTTTAATTCCAGTGGCCCATCTTATAATACAACTTGTTTCTTCTAGAAGAC AGTTGAACACAGCCAGTTATTCTTCCATTATTATGTGTACCTTGGAGTCATCCTCTTGGTCTTGT

#### SEOUENCE ID NO 36

MDPSMGVNSVTISVEGMTCNSCVWTIEQQIGKVNGVHHIKVSLEEKNATIIYDPKLOTPKTLOEA IDDMGFDAVIHNPDPLPVLTDTLFLTVTASLTLPWDHIQSTLLKTKGVTDIKIYPQKRTVAVTII PSIVNANQIKELVPELSLDTGTLEKKSGACEDHSMAQAGEVVLKMKVEGMTCHSCTSTIEGKIGK LQGVQRIKVSLDNQEATIVYQPHLISVEEMKKQIEAMGFPAFVKKQPKYLKLGAIDVERLKNTPV KSSEGSQQRSPSYTNDSTATFIIDGMHCKSCVSNIESTLSALQYVSSIVVSLENRSAIVKYNASS VTPESLRKAIVAVSPGLYRVSITSEVESTSNSPSSSSLQKIPLNVVSQPLTQETVINIDGMTCNS CVQSIEGVISKKPGVKSIRVSLANSNGTVEYDPLLTSPETLRGAIEDMGFDATLSDTNEPLVVIA OPSSEMPLLTSTNEFYTKGMTPVQDKEEGKNSSKCYIQVTGMTCASCVANIERNLRREEGIYSIL VALMAGKAEVRYNPAVIQPPMIAEFIRELGFGATVIENADEGDGVLELVVRGMTCASCVHKIESS LTKHRGILYCSVALATNKAHIKYDPEIIGPRDIIHTIESLGFEASLVKKDRSASHLDHKREIRQW RRSFLVSLFFCIPVMGLMTYMMVMDHHFATLHHNQNMSKEEMINLHSSMFLEROILPGLSVMNLL SFLLCVPVQFFGGWYFYIQAYKALKHKTANMDVLIVLATTIAFAYSLIILLVAMYERAKVNPITF FDTPPMLFVFIALGRWLEHIAKGKTSEALAKLISLQATEATIVTLDSDNILLSEEQVDVELVQRG DIIKVVPGGKFPVDGRVIEGHSMVDESLITGEAMPVAKKPGSTVIAGSINONGSLLICATHVGAD TTLSQIVKLVEEAQTSKAPIQQFADKLSGYFVPFIVFVSIATLLVWIVIGFLNFEIVETYFPGYN RSISRTETIIRFAFQASITVLCIACPCSLGLATPTAVMVGTGVGAQNGILIKGGEPLEMAHKVKV VVFDKTGTITHGTPVVNQVKVLTESNRISHHKILAIVGTAESNSEHPLGTAITKYCKOELDTETL GTCIDFQVVPGCGISCKVTNIEGLLHKNNWNIEDNNIKNASLVQIDASNEQSSTSSSMIIDAQIS NALNAQQYKVLIGNREWMIRNGLVINNDVNDFMTEHERKGRTAVLVAVDDELCGLIAIADTVKPF AELAIHILKSMGLEVVLMTGDNSKTARSIASQVGITKVFAEVLPSHKVAKVKQLQEEGKRVAMVG DGINDSPALAMANVGIAIGTGTDVAIEAADVVLIRNDLLDVVASIDLSRKTVKRIRINFVFALIY NLVGIPIAAGVFMPIGLVLQPWMGSAAMAASSVSVVLSSLFLKLYRKPTYESYELPARSOIGOKS PSEISVHVGIDDTSRNSPKLGLLDRIVNYSRASINSLLSDKRSLNSVVTSEPDKHSLLVGDFRED DDTAL

SEQUENCE ID NO 37

CAGGAGAACTACATAGCCCAGCATGCAACAGTCTCAACTTTTTCACGGACACTACATTTCCCAGA AGGCAGTTCGCACCGCAGTGTTTTCTGGGATGGGAACCACGCCGCTTCCCAGTCTCTGTGCGAGG CGTGAAGCGCGGACCTTTCAACAAGGGCTTTATTAATTCTCACGCTGCGGCCCTGGAAAGCGATG GAGGTGGCGGCTAATTGCTCCCTACGGGTGAAGAGACCTCTGTTGGATCCCCGCTTCGAGGGTTA CAAGCTCTCTTGAGCCGCTGCCTTGTTACCAGCTGGAGCTTGACGCAGCTGTGGCAGAGGTAA TGTGATTCATGGTATCAAGACAGTGTCTACTATATTGATACCCTTGGAAGAATTATGAATTTAAC AGTAATGCTGGACACTGCCTTAGGAAAACCACGAGAGGTGTTTCGACTTCCTACAGATTTGACAG CATGTGACAACCGTCTTTGTGCATCTATCCATTTCTCATCTTCTACCTGGGTTACCTTGTCAGAT GGAACTGGAAGATTGTATGTCATTGGAACAGGTGAACGTGGAAATAGCGCTTCTGAAAAATGGGA GATTATGTTTAATGAAGAACTTGGGGATCCTTTTATTATAATTCACAGTATCTCACTGCTAAATG CTGAAGAACATTCTATAGCTACCCTACTTCTTCGAATAGAGAAAGAGGAATTGGATATGAAAGGA AGTGGTTTCTATGTTTCTCTGGAGTGGGTCACTATCAGTAAGAAAATCAAGATAATAAAAAATA TGAAATTATTAAGCGTGATATTCTCCGTGGAAAGTCAGTGCCACATTATGCTGCTATTGAGCCTG ATGGAAATGGTCTAATGATTGTATCCTACAAGTCTTTCACATTTGTTCAGGCTGGTCAAGATCTT GAAGAAATATGGATGAAGACATATCAGAGAAAATCAAAGAACCTCTGTATTACTGGCAACAGAC TGAAGATGATTTGACAGTAACCATACGGCTTCCAGAAGACAGTACTAAGGAGGACATTCAAATAC AGTTTTTGCCTGATCACATCAACATTGTACTGAAGGATCACCAGTTTTTAGAAGGAAAACTCTAT TCATCTATTGATCATGAAAGCAGTACATGGATAATTAAAGAGAGTAATAGCTTGGAGATTTCCTT GATTAAGAAGAATGAAGGACTGACCTGGCCAGAGCTAGTAATTGGAGATAAACAAGGGGAACTTA TAAGAGATTCAGCCCAGTGTGCTGCAATAGCTGAACGTTTGATGCATTTGACCTCTGAAGAACTG AATCCAAATCCAGATAAAGAAAACCACCTTGCAATGCTCAAGAGTTAGAAGAATGTGATATTTT CTTTGAAGAGAGCTCCAGTTTATGCAGATTTGATGGCAATACATTAAAAACTACTCATGTGGTGA ATCTTGGAAGCAACCAGTACCTTTTCTCTGTCATAGTGGATCCTAAAGAAATGCCCTGCTTCTGT TTGCGCCATGATGTTGATGCCCTACTCTGGCAACCACACTCCAGCAAACAAGATGATATGTGGGA GCACATCGCAACTTTCAATGCTTTAGGCTATGTCCAAGCATCAAAGAGAGACAAAAAATTTTTTTG CCTGTGCTCCAAATTACTCGTATGCAGCCCTTTGTGAGTGCCTTCGTCGAGTATTCATCTATCGT TAAGCAGCAAGTAGCAAGCCTAGAAACCAATGATCCTATTTTAGGATTTCAGGCAACAAATGAGA TAACATATTGGCCTCTTTGTACTGGAAAAGTATTCAGTGGTACCTGGAGGTCTGGACAGTTATAC GGAAATATATTCAAGAGATTATGATTCTGTAAAGCTGTGGAATGAAGCTGCAGATTTAGAGAACA TTGGCTTCTGAAAAAAAAAAAGGTGAAGATAGTACTAGCAAGTATACTTATTTTTTAAAACAGG 

## SEQUENCE ID NO 38

MEVAANCSLRVKRPLLDPRFEGYKLSLEPLPCYQLELDAAVAEVKLRDDQYTLEHMHAFGMYNYL HCDSWYQDSVYYIDTLGRIMNLTVMLDTALGKPREVFRLPTDLTACDNRLCASIHFSSSTWVTLS DGTGRLYVIGTGERGNSASEKWEIMFNEELGDPFIIIHSISLLNAEEHSIATLLLRIEKEELDMK GSGFYVSLEWVTISKKNQDNKKYEIIKRDILRGKSVPHYAAIEPDGNGLMIVSYKSFTFVQAGQD LEENMDEDISEKIKEPLYYWQQTEDDLTVTIRLPEDSTKEDIQIQFLPDHINIVLKDHQFLEGKL YSSIDHESSTWIIKESNSLEISLIKKNEGLTWPELVIGDKQGELIRDSAQCAAIAERLMHLTSEE LNPNPDKEKPPCNAQELEECDIFFEESSSLCRFDGNTLKTTHVVNLGSNQYLFSVIVDPKEMPCF CLRHDVDALLWQPHSSKQDDMWEHIATFNALGYVQASKRDKKFFACAPNYSYAALCECLRRVFIY RQPAPMSTVLYNRKEGRQVGQVAKQQVASLETNDPILGFQATNERLFVLTTKNLFLIKVNTEN

## SEQUENCE ID NO 39

AGACTTTCAAAGATGGAATCACAAACGGCGCACATTGGTATGATGTGGAAGGTGGTATGCAAGAT TACAATTATGTGTGGGCCAACTGTTTTGAGATCACATTAGAACTGTCTTGTTGCAAGTACCCACC TTCACATTGGAGTGAAAGGATTTGTTAAAGATTCCATAACAGGATCTGGGTTAGAGAATGCAACC ATCTCAGTGGCTGGTATTAATCATAATATCACAACAGGCAGATTTGGTGATTTCTACCGATTACT TGTTCCTGGAACTTACAACCTTACAGTAGTTTTAACTGGGTATATGCCATTGACTGTTACTAATG TAGTGGTGAAAGAAGGACCAGCCACAGAGGTGGATTTTTCTCTTAGGCCAACTGTAACTTCAGTA AACATCATCCTCCTACCAGCCAATTCAGCCAAAGGACTTTCACCACCACCATTTCCCTGATATGG AAATCTTCTTGAGAAGGTTTGCCAATGAATATCCTAACATTACCCGGCTTTATTCCTTGGGAAAA TCAGTAGAGTCAAGAGAACTTTATGTGATGGAGATATCTGATAATCCGGGTGTCCATGAACCAGG TGAACCAGAATTTAAGTACATTGGAAATATGCATGGAAATGAAGTGGTTGGAAGAGAACTGCTGT TGAACCTCATAGAATACCTTTGTAAGAACTTTGGAACAGACCCTGAAGTCACAGATTTGGTTCAT TTCAATAAGTGTAATTGGCAGAAACAACAGCAACAACTTTGACCTGAACCGAAATTTCCCAGACC AGTTTGTTCAGATCACAGATCCTACGCAACCAGAAACTATTGCTGTAATGAGCTGGATGAAGTCC TATCCATTTGTACTTTCAGCAAACCTGCATGGAGGTTCTTTGGTGGTTAACTACCCTTTTGATGA TGATGAACAAGGACTTGCCACATATAGTAAATCACCAGATGATGCTGTTTCCAACAAATAGCAC TTTCTTATTCCAAGGAAAATTCCCAGATGTTTCAAGGTAGACCTTGCAAGAATATGTATCCTAAT GAATATTTTCCTCATGGAATAACAAATGGAGCTAGTTGGTATAATGTGCCAGGAGGAATGCAGGA CTGGAACTATTTACAAACAAATTGCTTTGAAGTGACTATTGAACTAGGTTGTGTGAAATATCCAC TTGAGAAAGAGCTGCCAAACTTTTGGGAACAGAATCGAAGATCACTAATCCAGTTTATGAAACAG GTTCATCAGGGCGTCAGAGGATTTGTTCTAGATGCCACAGATGGCAGGGGTATATTAAATGCCAC CATTAGTGTTGCTGAGATTAATCACCCAGTGACTACTTACAAAACTGGAGATTACTGGCGTCTCT TGGTTCCAGGAACTTATAAAATCACAGCATCTGCTCGAGGGTATAATCCAGTTACCAAGAATGTG ACTGTCAAGAGTGAAGGCGCTATTCAGGTCAACTTCACACTTGTTCGATCCTCAACAGATTCAAA CAATGAATCAAAGAAAGGAAAAGGGGCTAGCAGCAGCACCAATGATGCCAGTGATCCAACTACTA AAGAGTTTGAAACTTTAATTAAAGACCTTTCAGCGGAGAATGGTTTGGAAAGCCTCATGTTACGC TCCTCCTCAAATCTGGCTCTTTATCGATACCATTCCTACAAAGACTTATCAGAGTTTCT GAGAGGACTTGTAATGAACTATCCACATATTACAAATCTTACCAATTTGGGACAGAGCACTGAAT ATCGTCACATTTGGTCCCTTGAAATCTCCAATAAGCCCAATGTATCTGAGCCTGAAGAACCAAAG  $\tt ATTCGTTTTGTTGCTGGTATCCATGGAAATGCGCCAGTTGGAACTGAACTGCTTTTGGCTCTGGC$ AGAATTTCTCTGCCTGAACTACAAAAAGAACCCAGCTGTTACCCAATTGGTTGACAGGACTAGGA AAAATAGGACAAACAAATGCTCGTGGCAAAGATTTGGATACAGACTTCACAAATAATGCCTCCCA

ACCTGAGACCAAAGCCATCATTGAAAATTTGATTCAAAAACAGGACTTTAGTCTTTCTGTTGCCT CAGTTGCCCAAATAAATCAGATGAGAATATTCCAGGAGGAGTAATGCGTGGAGCAGAATGGCATA GTCACCTGGGCAGCATGAAGGATTATAGTGTCACCTATGGCCATTGTCCGGAAATCACAGTATAC TCTTCTTAGTATGTTAGTGGAGGTTCACAAGGGAGTTCATGGATTTGTTAAAGATAAGACTGGAA TATTTCCATGTACTCTTAGCGCCAGGTGTCCATAACATTATTGCCATCGCTGATGGGTACCAGCA ACAACATTCACAGGTCTTTGTGCATCATGATGCAGCTAGTTCTGTGGTGATAGTCTTTGACACAG ATAACCGGATATTTGGTTTGCCAAGGGAGCTTGTGGTAACTGTATCAGGTGCTACTATGTCGGCA CTTTCATCGGCTCAGGCAGCATCATGATGAGGTATGAAGATGAAATTCGCATGATGTCTACCGGCT CCAAGAAGTCCCTCCTAAGCCATGAGTTCCAGGATGAAACAGACACTGAAGAGGAAACATTATAT TCTAGCAAACATTGAAAAACACATTTTGCATATCTCCCAGCATAAGTACCAAGCAAAATTACAGT TCCTCTTGGGAGACACTGCATTAAGAAGAGACTCTCTTGCTTCTTCAAAGAGCTTTGGGAAA TACTCTAAACCTTTAAAAAAAATCTGATTTATGCAGCAGAGATGGGACAGCCACTTTTTCTTT TAATTTAAGATGAGCTATTTGGAGCTTATGTAATAATGGCATAAAGCCAACTAGAGGATGTTGTA CCAGAAACATTAAGGCAGGGACAGCAGTCAGAATCGACATAAAGCTTTAAAAACTCAAGGTTTTT TCAACCTACTGAGGAGTACTTTTCTCTAGTTGTTAAATAGCTGGAGTTTTTCTTATTCAGGTTTA ATGGAGGTTGAATTGATTTTTAAACACATATAACAGTAGGAAATGAATAAATGGGCTTCTGCATT TGGCTTTCTACCTGTTCCAAGGCTAGATCGGAACTGGTAGACTACGCTGTAAGCAGGATTTCACT ACCTCTCTTAAGGTTTAGCAAACTTCTAAATAGCCCATTTTAAGGGAGAACTTACTAACTTTATT GTTGTCTATCTTTGAACTTGGTAAAAACCCACAGGTGCTGCTTATATCTGTGAAGCACTAGC TTATTCTAGGAATGCCTGATTCTTTAATATTGCCTAAATCGGAACCTTTTTCTATGTTGCACACA TGGTTTTCAGATGACCCAGCCATCTACAAGATCTGAATTCTACTGAAAATATCTAGAAATGTGGA AGAGACCTACTTGCACATTCTTAACCTGTATTTGAACACAAAATATCTATACTTCATGCTCCAGC CCAAGCCTATACCCTGTAATAGCATACTATTATTGAAATCGCTTGACCGGTCTTGTTCACATAGG CCTCTGGGAGTGATTTGGTTCTTTGCCCTAATGTTTCATTTGACGGTCTCTTTTTGATCAACCAA ATGACTGCTGAGTGATAAAACACTGTGGTGTGAAAGTGTCATCTTCACTGCCAATCAGGCAAAGA CCGGAAAGATTTGCATTTTATTATGTCTGTCTTATCATGCAATGGAAATGATGCTTTTTGTAAGT

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